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THE

LIFE AND LETTERS

OF THE REVEREND

ADAM SEDGWICK

VOLUME II.

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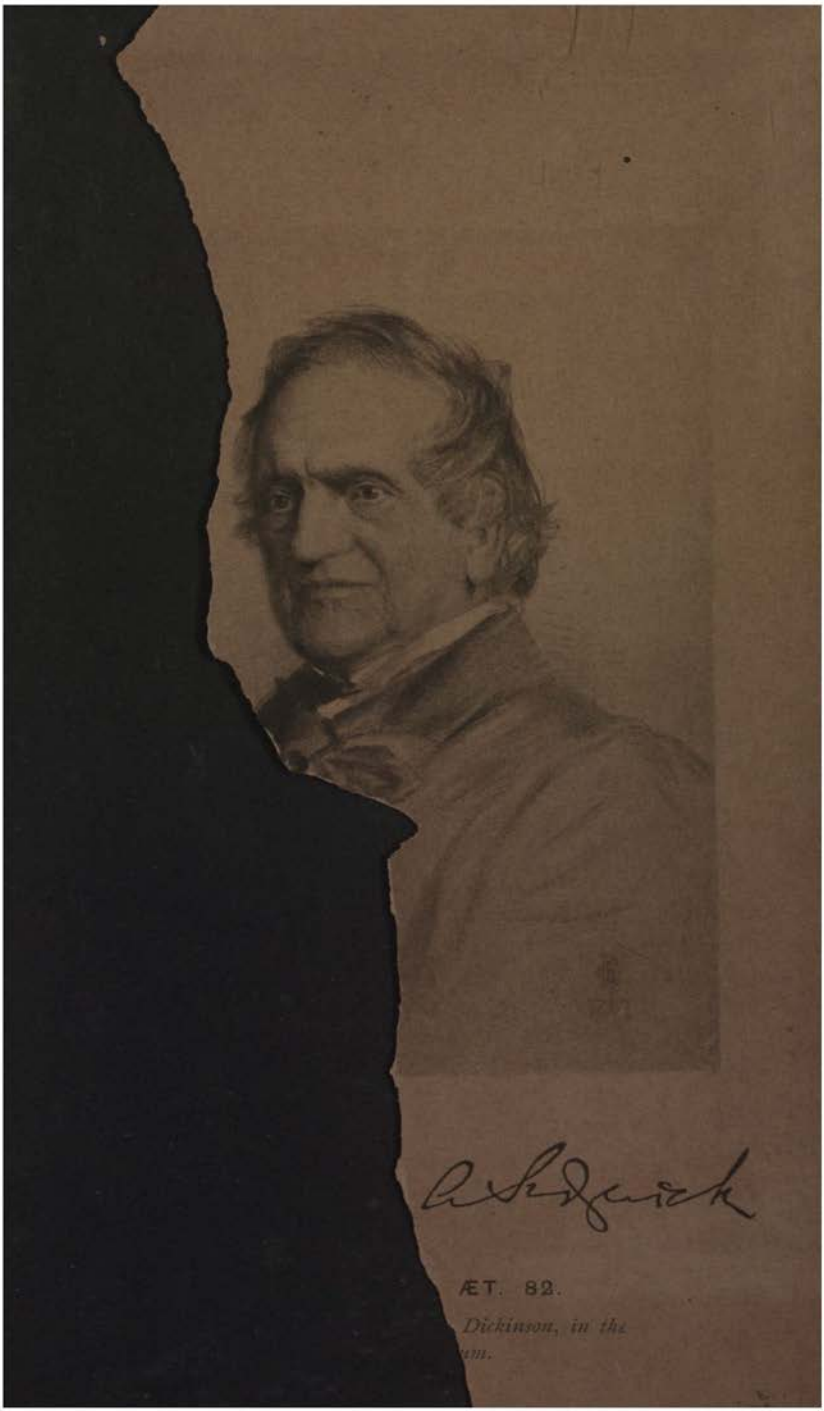

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THE

LIFE AND LETTERS

OF

THE REVEREND

ADAM SEDGWICK,

LL.D., D.C.L., F.R.S.,

FELLOW OF TRINITY COLLEGE, CAMBRIDGE,

PREBENDARY OF NORWICH,

WOODWARDIAN PROFESSOR OF GEOLOGY, 1818—1873.

BY

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FORMERLY FELLOW OF TRINITY COLLEGE, SUPERINTENDENT OF THE UNIVERSITY MUSEUM OF ZOOLOGY AND COMPARATIVE ANATOMY,

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VOLUME II.

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1890

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(1840—1843.)

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WERE it desirable to divide Sedgwick's life into periods, according to his special interests and occupations, it might be said that we were now entering upon the domestic period—just as the years between 1818 and 1840 might be called the geological period. Without, however, insisting upon such sharply defined subdivisions, which would only lead to erroneous conclusions, it must be admitted that from 1840 onwards he devoted a considerable portion of his time and attention to his two nieces. He did his best to form their characters and direct their studies by regular correspondence; and, during his periods of residence at Norwich, one or both

1840. Æt. 55. usually resided with him. While under his roof, no father could have shewn more tender solicitude for a favourite child, or taken greater pains to provide everything—books, music, exercise, society—that a young lady could possibly require for her instruction, amusement, and health.

A death in the family circle at Dent determined Sedgwick's first invitation to his niece Isabella. In February, 1840, his brother John had the misfortune to lose his second daughter, Emma. Sedgwick was deeply afflicted by the fatal termination of a long illness which does not seem to have been thought dangerous. "I greatly pity the father and mother," he wrote[1], "and still more poor Isabella, who has lost the companion of her childhood and only sister; and I did not think that such an event could have given me such deep pain as it has done." To his sister-in-law, writing on the day of the funeral, he said: "What a beautiful sunny day it is! And yet this is a gloomy day at the dear old parsonage of Dent, which I still look to as my home, for, if I understand my brother right, the last mournful office is to be performed over the remains of the dear child this very day. 'Oh! that I could transport myself to your fire-side, and mourn with you and your children! How does poor Isabella bear up? I pity her very much.... Should it be God's will ever to deprive her of her present home while I am living, in that case (if she has no better home) she shall live with me, and I will love her as much as if I were her father[2]."

To Isabella herself he addressed a letter of tender consolation and wise advice, which, long as it is, we reproduce almost as it was written:

CAMBRIDGE, *April 5th*, 1840.

Dearest Isabella,

I was very glad to see your letter, kindly written so very soon after your return to Dent; and the melancholy expressions in the latter part of it did not surprise me, for they

[1] To Rev. W. Ainger, 23 March, 1840.

[2] To Mrs Sedgwick, 1 March, 1840.

were quite natural. But I am sure you will not sorrow as one without hope. And how very light is the grief of a Christian, who believes that he is only parted for a time from those he loves, and trusts by God's grace to meet them again, where they will all live for ever in the presence of their Maker and Saviour!...A death like that of dear Emma is a death deprived of its worst sting. Not that we are forbidden to mourn—far otherwise. Our religion chastens and regulates the feelings of our nature, but does not root them out. When Jesus was at the grave of Lazarus, He wept, and the Jews said "Behold how He loved him!" And when Paul quitted his flock at Miletus they wept sore and fell on his neck and kissed him, sorrowing that they should see his face no more. If our religion told us not to mourn for our departed friends it would indeed be hard for beings like ourselves to obey the precept. But I do trust, my dear Isabella, that day by day your grief will become subdued, and that you will soon learn to look back with cheerfulness on the days you have spent with your sister—on her kind words—her kind looks—on the thousand little acts of kindness she did for you and received from you in return. Next to the consolations of Christian hope—the only real consolations in the pinching hour of trial,—I would urge you to exert yourself strenuously in the performance of the daily duties that are before you, such as helping your mother in her household duties, visiting and comforting your neighbours in distress, attending to the Sunday school, &c. &c. Do all these things with redoubled zeal, both as points of duty and as a means, under God's blessing, of keeping off the encroachments of a morbid and diseased melancholy. Grief sometimes produces langour and indolence, which are not only bad in themselves, but tend to perpetuate the very evil in which they originate. But take care not to run into the other extreme, and to hurt your health by doing too much; and do get into habits of strong exercise. On this point be as resolute as you can.

1840. Æt. 55.

1840. Æt. 55. In striving to fix and strengthen your principles, which is the great point, strive also day by day and hour by hour to improve your understanding, and to add to your knowledge. Your father and mother have given you a good education, but your whole life, to be good and useful and happy, must be a life of continued training and education. Be then, as far as you may, regular and systematic in your studies. Make yourself well acquainted with Bible history. And, when you have gone carefully over any portion, (for example the Patriarchal history of the early books of the Old Testament, the period of the Judges, or the succession of the Kings) you may then consult some abridgment such as that given in the Bishop of Lincoln's book[1] (which my brother has in his library) in which the events are related systematically. But never permit such abridgments to usurp the place of the Bible, only to help you in comprehending it. The same remark applies to the Jewish customs and stated festivals. Consider what effect they had on the manners and habits of thought of the Jewish nation, how well fitted to make them a peculiar people to whom the oldest oracles of God were committed,—and how every dispensation bears upon another order of things, when the old law was to be done away as far as it was ceremonial. In short, learn to understand the old dispensation as a schoolmaster to lead you to a knowledge of the Gospel.

From the study of Bible history you must go on to a study of ancient history, and I know no book better for you to read than Rollin, and read it in French to keep up your knowledge of that language, which you must not allow to slip away from you. I can procure it for you when you want it. After having read it, or along with it, you may read certain parts of the Prophetic Books of the Old Testament, such for example as the passages selected for the daily lessons of our Church during Advent, Nativity, and Epiphany.

[1] *Elements of Christian Theology*, by G. Tomline, DD., successively Bishop of Lincoln and Winchester; 2 vols. 8vo. Lond. 1799.

These passages lose much by being taken separately. They ought to be studied again and again in connexion, and as bearing on the great events in our Saviour's ministration, and the propagation of the Gospel... 1840. Æt. 55.

After some time I should wish you to read some of the translations of the old historians. I can procure for you the French translation of Herodotus—a very amusing and most instructive book—which will make you acquainted with several parts of profane history which are more or less connected with the historical portions of the Bible.

I don't know whether you have a good verbal memory. I have a very bad one, and I would not wish you to spend *much* time on committing passages to memory, if you cannot do so with ease and comfort to yourself. There are many beautiful passages in the Psalms which I think you might commit to memory with advantage; and if so, pray learn them from the translation in the Bible, which is far better and more faithful than that in the Prayer Book. I would apply the same remark to books of poetry in general. If you can do so with ease and pleasure, learn by heart short passages which strike you as very good and beautiful. Now don't be alarmed because I am talking of so much that is to be done. I am telling you of the kind of way I should wish you to train your mind, and speaking of studies that are to last as long as God spares your faculties, and which I should wish to be pursued with continued feelings of comfort and delight. But I will not go on, lest I should tire you. I do trust you will go on improving in knowledge and in goodness, and that you will become a well-informed woman; but I trust also that you will continue to be single-hearted, and humble, and charitable in the true and Christian sense. And God forbid that you should ever learn to think too well of yourself, and too ill of those about you. But I will not fear this. Simplicity, humility, and charity are a woman's best graces.

Instead of going to St Mary's Church we had a sermon in

1840. Æt. 55. our Chapel this morning; and since I came out I did not think I could do better than have some quiet talk with my dear niece on grave matters....

Ever most affectionately yours

A. SEDGWICK.

A week later he wrote: "Some time during the month of June I trust I shall see you all at Dent, and I will try to persuade you to let Isabella go back with me to Norwich. This is a capital plan. She shall work hard with me, but it shall be a work of good-will. For example, while I am at morning service in the Cathedral she may be taking a music-lesson, if she likes, of one of the best masters in England[1]. We will walk together, and drive out together, and perhaps I may procure a pony for her to accompany me on horseback. She will see much good society, and I trust she will improve in health, spirits, and information."

This programme was carried out with complete success, music, riding, society, and the rest. Sedgwick's residence at Norwich was this year transferred from the winter to the summer, and lasted from the middle of July to the end of September. During the whole time Isabella Sedgwick kept him company, and the long letters he wrote regularly to Dent tell how affectionately he looked after her, and watched with delight the interest taken in her by his friends.

Sedgwick's second niece—who, by the way, could only by courtesy be called his niece—now demands a few words. His brother James, whom we left at Freshwater in the Isle of Wight, had lost his wife in 1835. In 1838 he married a widow lady, Mrs Hicks, for whose daughter Fanny Sedgwick at once conceived a great affection. He commenced a correspondence with her, just as he did with his own niece Isabella, from which we shall extract several very graphic and interesting letters. She was but twelve years old in 1840, and some years therefore elapsed before she too

[1] Mr (afterwards Dr) Zachariah Buck, organist of Norwich Cathedral 1819—77.

became a frequent visitor at Norwich. Meanwhile her uncle did not forget her mental and social development. Here is some advice of general application: 1840. Æt. 55.

To Miss F. Hicks.

DENT, *October 9th*, 1840.

..... "Talking of getting by heart, have you a good verbal memory? If you have not, improve it, and if you have, cultivate it, by systematically committing to memory some beautiful short passage in prose or verse every day of your life. I say *short*, because a long task is fatiguing; but I wish your labour to be a labour of love. I have Goldsmith's poems on my table, and you might begin with them, for they are very sweetly written. If you began this habit, you might always have something to write about, and you might ask me now and then for a new lesson, which we might be reading together though 200 miles asunder. Prose is more difficult to commit to memory than verse, but there are many beautiful passages, both in the Old and New Testament, that I should wish every child of mine, were I blessed with any, to have by heart. What a pretty expression that is, to *have a thing by heart.* It exactly expresses what I mean, that we should remember beautiful passages because we love them for the beauty of their language and the goodness of their sentiments.".....

To the same.

THORNEY, *December 30th*, 1840.

..... "Rise betimes, Fankin, or you will never get on with your work. An hour's leisure before others are stirring (while your head is clear, and your heart as it ought to be) is worth two hours of elbowing when others are up and about their own work, jostling you at every turn. Let me see, here is a copy of Cowper's works. Let me try for a passage or two before I am interrupted. What do you say to the *Report of an Adjudged case, or Nose v. Eyes; The Negro's Complaint;* and, *John Gilpin?* The whole poem *On the receipt of my Mother's picture. The Task* you should read once fairly

1840. Æt. 55. through, twice if you like. Then select and commit to memory some good passages, for example: Book I., a long passage beginning, 'Not rural sights alone, but rural sounds', is very good; (2) a long passage 'By ceaseless action', etc.; (3) Description of the Gipsy: 'I saw a column', etc.; (4) a little farther on are some sweet lines about Omai, the savage brought to England by Captain Cook, Book II. 'England with all thy faults I love thee still', a long and noble passage well worth the trouble of committing to memory. 'Would I describe a preacher such as Paul', etc. another noble passage, followed by about 30 lines of the next passage against affectation. I think I have sent you enough for the present.

"In reading Cowper, or any other author, try to connect his works with his biography. In that way they give you more pleasure and instruction. Never commit anything to memory that is not worth remembering, and whatever you undertake in this way do it thoroughly, so that you may never again forget it. Most people have very imperfect and hazy ideas for want of attending to this good rule. Try always to connect your reading so as to give it meaning and consistency. Connect a poet's works with his biography, with the history, as far as may be, of his times. Learn in that way to follow out your reading. It is ten times more instructive in that way. When people are always running from one thing to another without any system, they do very little comparative good by it. The rule applies to serious as well as to lighter reading. Now I must stop."……

October 26th, 1845.

…"Now as it is Sunday I will preach to you a little.

1. Don't be slovenly either in your person or habits. Of the *first* I do not accuse you, dear Fan, but of the *second* I rather do. Never leave your pocket-handkerchief about; keep all your books and things in their right places. Don't plead excuse by thinking of persons of slovenly habits (like myself for example), but take warning by them, and

believe that these habits are bad in a man, and interfere with his comforts and his usefulness; and still worse in a woman, and utterly without excuse. 1840. Æt. 55.

2. When you are working at anything (whether finger work or head work, no matter), do it heartily. Avoid dawdling—it is a deadly evil. How many there are of this abominable class of dawdlers! Men complain of the shortness of time; and well they may, while they turn their short allowance to so little account. I believe that dawdlers, who have been very prolific, have bred a race of grumblers; sprightliness, activity, and happiness, are sisters by blood, and are best seen together; and they will be your constant visitors if you take the right way to please them.

3. Be punctual in all your engagements. Time is not given you to play with. If you are one minute behind time, do learn (no matter what the appointment may be) to think it a misfortune. Yea, and it may be a sin too. When you come to me next spring I shall expect you to be punctual to a *moment*. The habit once gained is a perpetual comfort to yourself and to those about you, and it helps you in the performance of your daily task. And do believe that you *have* a daily task. Life is worth nothing without it implies duties, and very solemn duties, both to God and man. Don't suppose I want you to be severe—not a bit of it. I like a merry face and a merry heart; but then our joys should be those of Christians. And we have no right to waste God's gifts by dawdling and other bad habits."...

The next letter is in pleasant contrast to these serious admonitions. It will be remembered that Sedgwick had been present at the previous excavations at Bartlow in 1835 and 1838.

TRINITY COLLEGE HALL,
April 23rd, 1840.

My dear Fan,

I wish you could only see me, looking sour as a crab, and dignified as a round of beef, surrounded by sixty-nine

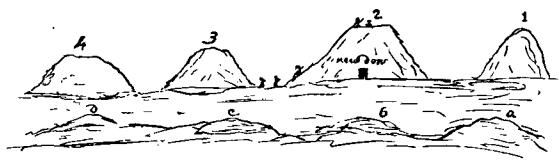
1840. Æt. 55. unfortunate undergraduates, whom I am tormenting with long Latin passages that I have given them to translate. Some of them are, like yourself, puckering their brows into furrows; others are writing with one hand, and scratching their heads with the other; some are turning their eyes towards the rafters to look after lofty thoughts; others are striking their brows with their knuckles, and, from their looks of disappointment, I half suspect that, spite of their knocking, they have found no one at home to answer them. Well! but I will not make a mock of the miseries of those about me, as I have endured them all in my younger days, and know their smart. Still my office is that of Inquisitor, and to torment those within my grasp seems to be a part of my melancholy duty. This is a terrible long sheet, and how shall I contrive to fill it? Let me see, I have nothing to write about but myself; so I must give you my history.

On Thursday last I returned from a two days' excursion to Bedfordshire; and next day drove over to Ely to see my old college friend Dean Peacock. I intended to have returned on Saturday evening; but he persuaded me to remain over Easter Sunday. The service in the Cathedral was very fine and solemn, and the singing excellent; and when the prayers were over, we adjourned to the great area under the lantern, where the congregations of all the churches of the city were united and addressed by the Dean. It was a very striking sight to see crowds of people, and long groups of children from the different Sunday Schools, come streaming in at the different doors, and gradually arranging themselves in the great area, before the sermon began; and the whole scene reminded me more of the pageants and processions one sees in the Roman Catholic cathedrals of the continent, than of the ordinary worship of a quiet protestant congregation.

On Monday I halted only a few hours at Cambridge, and then went on to Lord Braybrooke's, for the purpose, not merely of partaking of his hospitalities and meeting a large and pleasant party, but also in the hopes of assisting at the

opening of a great barrow or *tumulus*, at Bartlow, a village about seven or eight miles from Audley End. I have been there on several similar occasions[1], and I am sorry to say that this is the last, for all the great barrows have now been opened and despoiled of their contents. The custom of throwing great heaps of stones over the dead, and piling great mounds of earth over their remains, is, as you know, very ancient, and is several times alluded to in the Bible. The old Britons constantly raised such monuments, and you must have seen some of them on the chalk hills of the Isle of Wight. The Romans, when they had possession of this country, sometimes adopted the custom; for all the barrows near Bartlow are proved to be Roman. I wish I could draw, and then I would send you a beautiful picture of them; but I cannot draw half so well as a pig's foot, which can make its own likeness in mud and clay; and if it had a brush and a pallet there is no knowing what pictures it might not make. But if a pig's foot can draw, let me try my hand. So here is a picture for you!

1840. Æt. 55.



Now my dear little antiquary, the first question is, What things do these big mounds of earth hold? and the next question is, How to get at them? Now in the little *tumuli* or barrows (which from their size one may call wheel-barrows, *a*, *b*, *c*, *d*,) it was soon found that bones and works of Roman art were placed exactly on the level of the ground, and in the exact centre of the barrow—all under little brick vaults. Hence it was supposed probable that all the furniture of the great hills might be packed in a similar way. Therefore Lord Maynard (to whom the ground belongs) ordered cuts

[1] See Vol. i., pp. 506—509. The descriptions of the successive explorations of these *tumuli* are referred to on p. 509, *note*.

1840. Æt. 55. to be made on the level of the ground, and to be driven to the centre of the circle that forms the base of each mound (see my beautiful drawing, hill No. 2); and in each case the result was the same (with the exception of hill No. 4, which some thief had entered before us, and taken care to carry away all the furniture of the larder). In the middle of the base was a box, as you may well suppose, rather the worse for wear, and partly filled with dirt and soil that had passed through the broken lid. But the earth had made a kind of natural vault, like a baker's oven, so that there was far less dirt than you would have expected, and the vessels inside were beautifully perfect, at least, the greater part of them. They consisted of fine, and very elegantly formed, bronze vessels of sacrifice; of many vessels of glass, some of which contained liquor, but whether it had been wine, or a decoction of an old Roman, I can hardly tell you, but I know that it was very bad. In each barrow there was also a bronze lamp; and in the largest (No. 2) part of the oil was left in a kind of stiff resinous form, and the wick was not half consumed, so I believe the box was shut up while the lamp was burning, and that it went out for want of air. Each box contained also a large glass vessel with fragments of burnt bone from the funeral pile (for you remember the Romans burnt their dead, and made their monuments over the ashes and half-burnt bones, but in the British barrows you find entire skeletons). One contained a beautiful bronze camp stool, the strigils with which the Romans scraped themselves when they came out of the bath, and a singularly beautiful bronze vessel covered with very fine patterns of enamel. When you study Grecian and Roman history you will find it mentioned that they sacrificed a cock to Æsculapius at the time of a funeral; and it is mentioned that the Romans before they closed up a tomb, used to sprinkle the sacred vessels and bones with holy consecrated water, using for the purpose a branch of myrtle. Now only think! we found the bones of the cock which had been sacrificed to the god Æsculapius, and

a bunch of boxwood which had been used instead of myrtle, which of course was not to be found in our climate. In short, dearest Fan, I could almost have fancied that old Time had put back the pointer of his clock full 1600 years, and that we were living again with the old Romans. Dear me! I thought I should never fill the sheet, and now I have no room for the direction. But I really have done my long story. So fancy us all going to eat lunch with the clergyman; and fancy a party of twenty-two getting into four carriages; and fancy a great crowd of country people gradually dispersing; and fancy one or two eager antiquaries remaining behind to scratch away the earth and rubbish that had been left, in the hopes, no doubt, of finding a bit of an old Roman, or something that once belonged to him; and fancy their disappointment when they found only three or four bits of gingerbread, which a mischievous uncle of yours put among the dirt to puzzle them; and fancy driving away to Audley End and eating a good dinner with true classic appetites; and fancy us assembled at breakfast, when Professor Whewell produced a poem describing a visit paid during the hours of night by the ghost of the old Roman to the bedsides of all those who had been disturbing his bones[1]; and then fancy me in my gig; and so fancy me in Cambridge; and then, my dear friend, you may come down from the clouds, and settle your mind among the sober realities of life. And among such sober realities believe me, dearest Fan,

1840. Æt. 55.

Your affectionate uncle,

A. SEDGWICK.

P.S. I forgot to say that there were many vessels of red pottery in the boxes along with the bronzes and glasses, and outside one box was a large coarse *amphora* with the sweepings of the funeral pile, Thus

[1] Whewell's poem is printed, as were those written on the former occasions, in *Sunday Thoughts and other Verses*, p. 61.

1840. Æt. 55. In October, 1840, Sedgwick had the misfortune to lose his oldest and dearest friend, Dr Ainger. His sister, father, and mother had died when he was away from Dent, and it is probable that he now found himself, for the first time, in the presence of death.

ST BEES, *October* 23, 1840.

My dear Wodehouse,

You will perhaps be surprised to see that I am still, at this late season, in the northern part of Cumberland, away from my native valley, and away from my duties in Cambridge. But I am not detained by any motives of idle curiosity, but by the solemn duties of Christian love I owe to the family of the oldest friend I had in the world.

Isabella and I had a prosperous journey to Tuxford, over the great flat of England. After halting a day at Tuxford we posted to Wentworth House—an enormous and gorgeous pile, the front of which is a furlong in length. There we made our Sunday halt; and next day I attended the meeting of the Geological and Agricultural Society of the West Riding. Finally, we worked our way to the old parsonage of Dent on the Tuesday after I left Norwich. I need not say that we had a joyful welcome. The remaining part of the week I spent in rambling among the scenes of my youthful days; and on the Sunday I preached in the morning at Dent, and in the evening at the little chapel of which I laid the foundation-stone about three years since. Mr Matthews has done his duty there admirably. I found the little chapel crowded, and a Sunday school of 80 smiling children, in a place where, a very few years since, everything had run wild for want of looking after, and there was hardly to be seen a single Christian blossom. I think I told you that I was engaged to attend a public meeting at Kendal on the 12th. In order that we might not be parted, and partly also through desire to hear what I had to say, all the household went with me. Our friend Dr Ainger of St Bees we knew was out of health; though from his cheerful letters, we did not suppose that he was at all seriously ill; and we had

arranged, the day after my lecture at Kendal, to pass through the exquisite scenery of the Lakes to Keswick, and probably to drive on by moonlight to St Bees the same evening. But a second letter I received at Kendal convinced me (though still suspecting no danger) that such a visitation might be too much for a man in feeble health. So my brother and sister and Dick turned back, and I went on with Isabella. 1840. Æt. 55.

On reaching the place on Wednesday evening (the 14th) I was greatly shocked to find my dear and good friend very very ill. He was labouring under a low fever which had followed a course of active treatment for congestion of the liver. From the first I thought the case a bad one. The management of the house now in some measure fell on me, for two children and the governess were the only persons at home. I sat up in the sick room Thursday night and part of Friday night, the symptoms gradually worse and worse, the mind of the poor patient clouded, and disturbed by delirious dreams. On Sunday morning I preached for him, but not without great pain to myself, for I had given up all hopes of his recovery; on Sunday night and Monday night I was not in bed. Early on Tuesday morning a great change took place; the delirious dreams fled away, and the cloud parted from my dear dying friend's mind. He talked coherently, though with great difficulty; joined frequently in devotions; and when I had read by his bedside one or two short prayers, and those passages from the New Testament which are in the Sacrament Service, he told me *I had not gone far enough,* and seemed to ask for the concluding prayers of the Visitation of the Sick. He afterwards uttered many pious ejaculations, made a most noble but most truly humble Christian confession, and mustering the last remnants of his parting strength raised himself and blessed his children and friends who were bending over him. Oh! what a scene a death-bed is! I do rejoice I have witnessed it, painful as it has been to us all; for I loved poor Ainger as my own brother. When I was an undergraduate, he nursed me, at the risk

1840. Æt. 55. of his life, when I had a raging fever. Fourteen years since I came to his door (during one of my geological rambles), and found him dangerously ill, and nursed him till he was out of danger. And is it not strange that the same Providence should again have led me to his door in his hour of need? The family are much exhausted with mourning and watching, but are, God be thanked! all well. The funeral is on Saturday. I have been very very busy, and must remain over Monday; after which I *must* go back to Cambridge, taking Dent for one day as a halting-place. Pray excuse this mournful letter. But of the fulness of the heart the mouth speaketh.

Very affectionately yours,

A. SEDGWICK.

Sedgwick's interest in his friend did not terminate with his funeral. He took effectual steps to perpetuate his memory by promoting a subscription among their common friends for a bust and monument at St Bees, which was put up in the course of 1842, with an inscription corrected, if not actually written, by Bishop Blomfield. Moreover he continued to the children the affection he had felt for their father. Dr Ainger had made him guardian to his daughters, whom he watched over with parental solicitude; and he corresponded with his son on terms of intimate friendship[1].

When Sedgwick got back to Cambridge he found the University "in all the bustle of a contested election for the office of High Steward, which," he wrote, "in my present temper, is quite odious to me." At any other time he would have plunged into the fray with eagerness and activity, for it had many features in common with the memorable struggle of 1829, which resulted in the election of Mr Cavendish. The candidates were Lord Lyndhurst and Lord Lyttelton, both of

[1] In 1853, when requested to be godfather to one of his children, Sedgwick wrote: "How can I refuse to stand for your son, and the grandson of the dearest friend I ever had in the world?"

Trinity College. The former was a tried man, with all the advantages of a brilliant reputation and a successful career: the latter had taken his degree only two years previously, and could offer nothing to the electors except distinguished classical honours, and the promise of success in after-life which they might hold out. Trinity College seems to have favoured the younger of her sons, to judge from the presence of the Master, the Vice Master, the Tutors, and nearly all the resident Fellows, on Lord Lyttelton's committee. Sedgwick supported him, but, for the reason above indicated, without much enthusiasm. Lyndhurst was out of England, and, on learning from the newspapers that he had been started by his friends, wrote in evident perturbation: "I will not run any risk. It would be very mortifying to me to be defeated. It would also be, in some degree, a blow to the Conservative cause—at least it would be so interpreted by the Radicals[1]." The contest was watched with eager interest, even by those who did not belong to the University. "The Cambridge Election," wrote Mr W. D. Conybeare, "has excited a more general sensation than I remember to have been caused by any like University question." Those who had made themselves responsible for Lyndhurst shewed their sense of the risk they had incurred by working with so much energy that at the close of the poll he had beaten his opponent by a majority of nearly two to one[2]. 1840. Æt. 55.

With this exception the term, so far as Sedgwick was concerned, was busy but uneventful. He was lecturing six days in each week, and could therefore find little time for other occupations. He managed, however, to attend the first meeting of the Geological Society, for the sake of meeting Agassiz, who read a paper *On Glaciers, and the evidence of their having once existed in Scotland, Ireland, and England.*

[1] *A Life of Lord Lyndhurst*, by Sir T. Martin, K.C.B. 8vo. Lond. 1883, p. 390.

[2] The exact numbers were: Lyndhurst, 973; Lyttelton, 488. In Trinity College 242 voted for Lyttelton; 227 for Lyndhurst.

1840. Æt. 55. It excited a long discussion, in which Sedgwick took part, and the battle was "kept up till near midnight." These discussions are not reported; but Sedgwick's line of argument may be inferred from a criticism on the *Études sur les glaciers*, then recently published. "I have read his Ice-book. It is excellent, but in the last chapter he loses his balance, and runs away with the bit in his mouth[1]." After this Sedgwick did not again leave Cambridge, except to attend a Chapter at Norwich (where he presided at the annual dinner of the Philosophical Society); and on Christmas Day he preached in the College Chapel. The sermon was evidently a remarkable one, for he was requested by several members of the College to print it; but it does not appear that their prayer was granted.

This was a memorable year in the history of the Woodwardian Museum. The new wing of the Library, in which it is still located, had been nearly completed by the end of 1839; and in February, 1840, Sedgwick met the architect, Mr Cockerell, to settle on the fittings. Soon afterwards an important collection of fossils arrived from Germany. As the purchase of this was due to Sedgwick's energy and discrimination, it requires a brief notice, which can fortunately be given for the most part in his own words.

In the summer of 1839 he had visited Bayreuth with Murchison, for the express purpose of seeing the extensive collection belonging to Count George Münster, a well-known scientific geologist. Nine years before Murchison had sent to Sedgwick an enthusiastic description of the Count and his cabinet: "Count George Münster" he wrote, "is the prince of fine, honest-hearted, intelligent, travelled Germans. His cabinet, without any exception, the most instructive in Europe for the oolitic series, and down to the coal-measures." Some time before their visit, the Count had been anxious to sell his collection to the King of Bavaria, but, after long delay, the

[1] To R. I. Murchison, 26 November, 1840. *Proceedings* of the Geological Society, iii. 327.

negotiation had fallen through, because, as Sedgwick said, "though His Majesty has some taste for antiques, he has no true relish for such as are pre-adamite." This refusal, and the delay which had accompanied it, were turned to the advantage of the university in the following manner: 1840. Æt. 55.

"While this negotiation was going on, the Count began to arrange a second collection out of his multitude of duplicates; and in the end it became almost the counterpart of the first. After he had resolved to keep his first collection, the second, as far as he was concerned, lost all its value. This I told him the moment I saw it, and ran my eye over his catalogues; and I hinted that he ought to sell it to some public collection. To this he replied rather gruffly (or perhaps only *Grafly*) that he was not a dealer. *J'ai traqué beaucoup, mais je n'ai jamais marchandé*, were, I think, his exact words. I soon, however, put my meaning right, by pointing out to him how much it would be for the good of science, and for his own honour, that the counterpart of his noble collection should be placed in some public museum, rather than be locked up in his packing-cases, to be eventually, perhaps, broken up and scattered to the four winds. I did not, however, then ask him to fix a price for it, as he had already undertaken to negotiate for me the purchase of a fine Pappenheim collection....Before we finally parted, he gave me reason to hope that if this purchase could not be effected, he would fix a price on his own collection of duplicates, and give me the first chance[1]."

The purchase of the Pappenheim collection failed, and Count Münster then fixed £500 as the price of his own. Sedgwick advised the University not to let such an opportunity slip, offering, if the Woodwardian Fund could not bear the whole cost, to give £100 himself. In the course of the negotiations he wrote to the Vice-Chancellor:

"It appears from the Count's statement that the collection contains more than 20,000 specimens of organic remains, of which 13,000 are perfectly arranged and completely catalogued; that the remaining 7000 or 8000 are in a great measure arranged and catalogued, a few only being still under the examination of Professor Goldfuss and awaiting his final determination respecting them.

"Before making the offer [to the King of Bavaria] he separated a noble series of duplicates for his private cabinets, which he was very well enabled to do, as he had, during the last twenty or thirty years, purchased not less than twenty great collections; besides making, during his own tours in various parts of Europe, enormous

[1] To Rev. J. Romilly, 30 November, 1839.

1840. Æt. 55. additions from different fossil localities in Germany, France, Italy, etc. The consequence was, that, by the help of casts where there were no duplicates, his second collection, for all useful purposes, became nearly as good as the first, which is unquestionably the finest in all Europe....The price (£500) is not one half what I expected the Count would demand for it. It is very valuable, and the additional value from the labour and talent employed in arranging, classifying, and naming the several specimens (every one of which has a ticket in the Count's hand-writing) is above all estimate[1]."

The Woodwardian Trustees wisely listened to the Professor's recommendation, and the Senate allowed the purchase without opposition[2].

A very different matter, belonging also to this year, requires brief notice. Early in March Canon Wodehouse, who had long felt the difficulties attending subscription to the Articles of Religion, circulated a draft Bill, the object of which was to substitute for it a form of assent to the doctrines contained in the three Creeds. This draft was accompanied by a printed statement, intimating his intention of resigning his position as a clergyman of the Church of England, should he fail to obtain redress; and further, setting forth certain passages in the Liturgy, which, in his opinion, required alteration, from an evangelical point of view. It is difficult to understand what precise step he wished Sedgwick to take. This much is, however, clear, that he wanted his support, and that of some of his Cambridge friends, in a movement to effect the desired reform. His appeal found Sedgwick "nervous and out of heart in consequence of a long weary fit of suppressed gout," and the correspondence which ensued bears traces of this physical condition. The letters are too long, and too little suitable for a biography, to be printed entire; but one or two passages may be cited from those of Sedgwick, as shewing his attachment to the Church, and, at the same time, his willingness to accept certain changes in her formularies:

[1] To Dr Tatham, Master of St John's College and Vice-Chancellor, 19 November, 1839.

[2] The Grace authorising the purchase is dated 27 November, 1839.

1840.
Æt. 55.

17 *March*, 1840.

"...I don't like a lax and vague signature. The only way in which I think I could be induced to join *heartily* in a movement, would be an attempt to get rid altogether from the Prayer Book of a few objectionable passages. And I should most joyfully accept the alterations suggested in the early part of William the Third's reign. I fervently hope I am mistaken, but my belief is that you will get no redress at this time. There are detestable cowards who dare not stir even to do right; there are time-servers who love the world's smiles a thousand times better than the hopes of a quiet conscience; there are honest cowards who fear to lose the good they have in trying for more; there are a thousand pompous, bustling, Christians who worship external forms with the spirit of rank idolatry; there are honest bigots who will not think anything established can be wrong, and get rid of the trouble of uneasy thoughts by resting on authority; there are the thousands who hate the church; the thousands who care not for religion; and how can you make an impression on such a body? The Lords are jealous of the Commons, and the Commons of the Lords; and as for the Bishops, their policy will be to prevent slipping and sliding by sticking fast to their seats. But I must conclude. Pray write again by next post..."

21 *March*, 1840.

"...Pray understand me! I am writing on the one point, your leaving the Church. By all means seek redress on those points in which the forms of the Church may be amended; but for God's sake don't talk of running from the old home..."

10 *April*, 1840.

"...The correspondence I have had with you has disturbed me more than I know how to tell you. Alas! I can only repeat what I have written before. I wrote on the subject to Dr Arnold, and thought he perhaps

1840. Æt. 55. might have been corresponding with you, but he tells me is not. I think he will join you in your application. A very able and honest friend of mine, a few years older than myself, who was once Fellow of this College, and is now a kind and useful evangelical clergyman, talked over *the points* with me on Tuesday last. He wished the portions of the Liturgy changed; but he added that he could not leave a Church with which he agreed *more nearly*, to the very letter, than with any other Church passing under the name of Christian; that the Articles were avowedly drawn up with a view to comprehension, and not under the views of exclusion; that to be useful a man must belong to a congregation; that regarding the matter practically, he was able and willing to continue his duties; and, least of all, was he willing to flinch because he could not adopt the views of any extreme party either high or low, &c. &c. I thought his views rational and practical, and such as were compatible with the best rules of Christian morality....Had St Paul been in your place I do not believe he would have come to a conclusion essentially different from that of the friend to whom I have alluded..."

Towards the end of the year the venerable Professor Smyth had asked Sedgwick to look over the proof-sheets of his *Lectures on Modern History*, which he was passing through the press. Smyth's letter of thanks shews that Sedgwick had worked very thoroughly in what must have been to him an almost untrodden field.

18 ALBION STREET, LEEDS.
December 24th, 1840.

I am extremely gratified by your Letter, not only to see you able to give my Lectures so much valuable Praise, but to see you so interested in them, and so friendly to me, as to sit writing Sheet after Sheet, in the Way you have done, to improve and correct them, and render them fitter to obtain the Approbation of others. If anything further occurs to you, pray at your Leisure lay it before me....

Sedgwick was in residence at Norwich from January to April, 1841. His niece Isabella, as in the previous year,

brightened his old house with her presence. He was working —or rather trying to work—, impeded by the usual difficulties occasioned by ill-health and frequent interruptions—at the final revision of his joint paper with Murchison; and no incident worthy of special notice occurred except a brief but lively controversy in the *Norfolk Chronicle* with an anonymous writer signing himself *Miles*, who had presumed to attack the conduct of the Dean and Chapter in the matter of their patronage and their charities. 1841. Æt. 56.

To Rev. C. Ingle.

CAMBRIDGE, *January 30th*, 1841.

My dear Ingle,

I have so completely forgotten how long it is since I wrote last that I am at loss for a starting-point. In the October term I was holding forth in a new lecture-room six days a week. The roof is vaulted in such a way that it reverberates every sound ten times over. It seemed day by day as if a legion of wicked spirits were hovering over me and mocking me in the midst of my labours. But worse than this, not half my class could hear half I wished to tell them, such was the Babel din. Nor were these all my miseries; such a foul smell of paint—it turns my stomach inside out even to think of it...

I remained over Christmas Day and preached in our Chapel, and then went to spend a few days with the Dean of Ely. The Marchesa, Lady Munro, Whewell, Jones, etc. etc., of the party. They contrived to get up a grand fire while we were there. Twelve large wheat-ricks all blazing together on the outskirts of the city—quite in your own way[1]. The Cathedral looked nobly, and ghostly, lighted up by this fire, and projected on a pitch-dark sky. From Ely I went to Whittlesea, and saw thousands, and I think tens of thousands, whirling on the ice. There were certainly 10,000 persons

[1] Ingle had sent Sedgwick a description of the fire at York Minster, 20 May 1840.

1841. Æt. 56. assembled one day on Whittlesea Mere to see a match—another day nearly as many. I went to the frozen Fens to see the daughters of poor Ainger, to whom I am now guardian. Did you ever see the Fens? Wordsworth told me he considered a dead interminable plain a sublime object. The eye of the body finds nothing to stop it, and has nothing to rest on, and therefore it is that the mind's eye is set upon conjuring tricks, and easily finds a beast for the poetic soul to stride over. I don't think I express the thought in his exact words, but I trust you understand all about it without any more words. One day the vision of Peterborough Cathedral seen across the hazy fen was very sublime. It seemed of supernatural magnitude, and its clustering forms were very majestic. From Whittlesea I went to Lord Fitzwilliam's and met a large Christmas party. You will be glad to hear that a great work, giving the letters of Burke and his correspondents from his early life almost to the day of his death is just coming out[1]. I read several of them in Lord F.'s study. And I had the pleasure (while sitting under noble portraits of Burke and his son by Sir Joshua) of talking with two sensible old ladies who in their younger days had known Burke most intimately. I can tell you some long stories about him when you next come to Norwich. He was fond of preserved ginger and drank great tumblers of cold water. Surely such facts are precious. So believe me,

Your affectionate friend

A. SEDGWICK.

To Miss Fanny Hicks.

CLOSE, NORWICH, *March 28th*, 1841.

..."I am giving, each Wednesday, a lecture of about two hours to the Museum Society. My first was about rain, springs, rivers, bogs, and marshes. My second was about

[1] *Correspondence of the Right Honourable Edmund Burke; between the year 1744, and the period of his decease, in* 1797. Edited by Earl Fitzwilliam and Sir R. Bourke. 4 vols., 8vo. Lond. 1844.

snow, ice, glaciers, boulder-stones, and gravel. My next is to be devoted to the classification of such beasts, birds, fishes, and reptiles as are now living on the face of the earth. And the two following will contain the life-history and adventures of the beasts, birds, fishes, and reptiles which lived before the time of Adam, with many interesting anecdotes of their love adventures. You see therefore what a glorious subject I have before me; and I only wish that you could come with your Mamma and Annie and sit under me, and encourage me with your kind looks, and then come home and help me to drink tea after I have become thirsty with so much talking. By the way I always have a tea-party after my lectures, and Mrs Blakiston, Lucy Wodehouse, Miss Pellew, and I don't know who besides are coming on Wednesday evening...." 1841. Æt. 56.

Presently, after speaking of Miss Kate Stanley as "enjoying society, yet capable of being happy and well-employed out of society," he proceeds:

"This is a great point to learn, dearest Fankin. All persons should learn to live alone, I mean sometimes. But there are many persons who are never happy when by themselves, which shews that they want resources in their own minds, and have had a bad moral training. Now, my dear niece, when you are by yourself you are in God's presence; while you walk out you are in a glorious temple built by His hands; and while you have your eyes and understanding you can live and converse with the holy men, and the Apostles, and the poets, and the historians of all time. And when your ears are tired of the grave sounds of their voices you can join in the cheerful duties of the day, and the cheerful sounds of fire-side talk. And are not these things delightful? Yes—to a right temper they are. And now acquire this temper, and acquire these habits, while you are young and your mind is plastic. But discipline must be gone through, and do, my dear niece, try to turn the present time to profit. It is your seed-time. Sow then the good seed among the

1841. Æt. 56.

vernal blossoms, and may God grant that when a woman you may reap a rich harvest of happiness and usefulness."

As soon as Sedgwick could get away from Norwich he hastened back to Cambridge, to superintend the removal of his Museum to its new quarters, and the unpacking of some forty cases, among which there was danger of his being "smothered as old Samson was by the house he pulled about his ears." In these labours he was helped by Mr Ansted[1], Fellow of Jesus College, who had already done some good work in the Woodwardian Museum, and now for a time became his regular assistant. But, when summer set in, and Cambridge became empty and dull, he found the confinement irksome; his health gave way, and much as he regretted to leave his work unfinished, he felt that it would be wise to break off, and get exercise and fresh air. It was his intention to visit the southern districts of Ireland and Scotland, a long and laborious journey: "but," he said, "if all be well, this summer will finish my geological labours in the field; and then for the closet, should God continue my health[2]." Before he could start, a general election called him to Yorkshire. He went reluctantly. He announced his intention to vote for the whigs, but, he added, "not in such good spirits as I used to do, because I am sadly displeased at some of their doings. I do not mean to make any speeches, as I could not with a good conscience say that I approved of all the ground taken by my old whig friends[3]."

This duty despatched, Sedgwick journeyed to Plymouth, taking Dartmoor by the way, where he did a week's geology. The meeting of the British Association, presided over by Whewell, was hardly so successful as those of former years;

[1] David Thomas Ansted, B.A. 1836, afterwards Professor of Geology at King's College, London, and F.R.S. The report of the Inspectors for 1839 speaks of "the splendid collection of corals, now in course of arrangement by Mr Ansted."

[2] To Miss F. Hicks, 1 May, 1841.

[3] To Rev. John Sedgwick, 27 June and 3 July, 1841. The reason for Sedgwick's displeasure is stated below (p. 143) in a letter to Bishop Wilberforce.

the weather was bad, and the attendance scanty. Still Sedgwick, as his manner was, contrived to extract a good deal of pleasure out of the scenery (when the rain allowed him to see it), and out of the divers hospitalities in which he was invited to take a part. At Plymouth he was joined by Mr Richard Griffith, who had undertaken to be his guide in Ireland. 1841. Æt. 56.

Their route from Dublin lay through Wicklow, Wexford, and Waterford to Cork, whence they struck across the country to Killarney. Sedgwick appears to have been as much interested with the people and the scenery as with geology; but, wherever they went, the bad weather pursued them. "My macintosh," he writes from Tramore, "was of no more use than so much blotting-paper. I have been making myself agreeable to the cook, and smoking by the kitchen fire like a wash-tub on a frosty morning[1]." At Killarney the weather cleared for a few hours, and he grew enthusiastic over the lakes, which even he admitted to be superior in beauty to those of Cumberland. Their luxuriant vegetation especially delighted him. "The arbutus grows to the size of a forest tree; the holly strives to outdo the arbutus; each tree and plant seems to struggle with its neighbour for the mastery. The oak beats them all, and behind his top-branches you see a great precipice of white limestone, like that at the base of Ingleborough, but half-covered by vast tufts of ivy, and giving support to an upper fringe of birch and other mountain-plants and trees." Thence he crossed the mountains to the head of Dingle Bay, to examine "the most northern of the great promontories that stand out of the south-west coast of the counties of Cork and Kerry like so many great prongs. All these promontories are composed of ridges of finely peaked mountains; and the bays that run up for thirty or forty miles between these ridges are most magnificent, when the weather permits you to see them. I *have* seen them, but only by glimpses. The mountains near the end of Dingle rise directly out of the sea, and are as high as Scawfell. You

[1] To Mrs John Sedgwick, 13 August, 1841.

1841. Æt. 56. never saw anything so wild as the country and the people, or so miserable as the cabins many of them contrive to live in. Before reaching Castlemaine, on our way to Dingle, we overtook a strange and wild but most mournful procession. A labourer had died suddenly a few miles from his home, and they were bearing his body on boards (with a cloth thrown over the face and upper parts, but with the legs and feet bare) towards his own cabin. Several men, and about two hundred women, were following. The moment we saw them Mr Griffith said: 'Now you will hear what you never heard before. These women are following to howl; it is still the custom in these wild parts, and the moment our car comes near, they will begin.' The words were hardly out of his mouth when a low murmuring sound, like distant psalm-singing, was heard. It soon became louder and louder, and, as we came close up, gradually rose to a very loud, wild, protracted, howl. The sounds were hâ–hâ, hi–hee, ho–ho, oh, augh! and being repeated again and again, in a kind of regular cadence (the hi–hee rising almost to a shriek, and the remaining syllables sinking almost to a low groan) fell very dismally upon the ear, and, spite of the barbarous absurdity, was really affecting....

"The day following we had dreadful weather, and, after going round the extreme western headlands of the Dingle promontory, where we collected some very curious fossils, we returned to the inn with our flesh soddened in rain, and our bones almost gelatinised. But I took no serious cold. Spite of the wet, I wish you had been with me to see the great Atlantic swell pounding against the noble cliffs. The south-western gale caught up the foam as soon as it was formed, and bore it aloft above the cliff, and swept it across the country to a considerable distance. Many acres of land, near the cliffs, were so covered with sea-foam as to be almost as white as snow."

Having explored this wild headland, Sedgwick went back by way of Tralee to Killarney, and thence along the coast to Limerick. A change in the weather enabled him to see

the Shannon to some advantage. He ascended it in a steamer as far as Banagher, whence, after spending an evening with Lord Ross in his observatory, he found himself in Dublin again on the first day of September. .1841. Æt. 56.

This rapid excursion is described by Sedgwick in letters written almost as hurriedly as he travelled; and his remarks on the people he met, and the good stories he heard, were too often reserved for oral communication. He could not, however, resist writing down the following dialogue. The scene is the coast of Kerry, near the mouth of the Shannon, where the sea has hollowed the cliff into caves frequented by seals. Enter Sedgwick and his guide, a merry lad of fourteen, with a dog at his heels. 'What's your dog's name?' 'His name, your honour, is it that you want? He is called Sir Robert Peel.' 'Why so, Pat?' 'Because, your honour, he is the finest rat-catcher in all the country.'

After a rest of two days in Dublin Sedgwick set off for Scotland. To reach it he passed rapidly along the east coast of Ireland, and spent a day in ascending the highest of the Mourne Mountains, where he was much interested in the proceedings of a party of engineers, who were endeavouring to communicate with stations on Scaw Fell and Black Comb by means of reflectors. Thence he crossed the Irish Channel from Donaghadee to Port Patrick. Some three weeks were spent in geological investigations, agreeably diversified with visits to friends. Such a journey need not be described at length. As Sedgwick said, when he sat down at Dent to amuse Miss Stanley with an account of what he had done and seen in Scotland: "a geological tour, along a beaten road, without a single incident, and addressed to a lady who does not care a straw for all the stones on the face of the earth—the case seems almost beyond hope!" He did, however, write a long and interesting letter, from which we will make a few extracts. After describing Port Patrick, and the "old weather-beaten square tower" near the entrance of the harbour, he proceeds:

1841. Æt. 56. "During the two most miserable days of this miserably wet summer I halted with Mr J. C. Moore (a brother of the late Sir John Moore), who has built himself an excellent house on the shores of Loch Ryan. I reached his door the evening of the day I landed at Port Patrick, and found three or four ladies, shining and all glorious to behold, dressed out for the county ball; but the old gentleman remained at home with me, and I soon struck up an acquaintance with a little girl, about five or six years old, who offered to give me a part of her breakfast of oatmeal porridge, at half-past seven next morning. This offer I of course accepted; and the libation of milk and oatmeal seemed a fit offering for the altar of love, for I have had a most affectionate note from the little maid since I left the house. Two days of idleness, spent in agreeable and intellectual society, did me a great deal of good; for I was beginning to be fatigued by the continual toil of my tour, often carried on in spite of wind and foul weather. I turned out, however, like a good working-bee, as soon as the sun began to shine again; and wound my way northwards along the wild picturesque coast of Wigtonshire. The cliffs were interesting to one of my craft; but I could not help now and then turning my face from them, and looking over the broad sea, and gazing on the projecting headlands of the Mull of Cantire, the pinnacles of the Isle of Arran, and the magnificent pyramidal rock of Ailsa. These are noble objects; and they had double charms for me, from being associated with the remembrance of the geological toils of a former year.

* * * * * *

"I wish my sister had not come in and interrupted me; for at the rate I was travelling I should have paced through all the south part of Scotland long before this time. Do therefore turn back with me to the coast of Wigtonshire; just glance your eye over the southern Hebrides, and then we will go on. No! we must go faster still. I will transport you to the hills a few miles south of Ayr. The whole rocky

coast, as far as eye can reach, is glowing in the warm light of the western sun—the peaks of Arran are rising sharply on the sky—the great pyramid of Ailsa is becoming dim with distance—and in the far north, the summits of some of the distant Grampians seem to be melting on the horizon. And what have we at our feet? 'The banks and braes of bonnie Doon'—on the other side of it a pretty Corinthian round temple perched on a rock—a national monument to poor Burns, but not perhaps in good taste—and, if you keep a good look-out, you will get a peep at the auld brig over which Tam O'Shanter escaped from the young witch's gripe, of Alloway auld kirk, famous for witches' revels, and of the cottage by the road-side which was the poet's birth-place. The scene, independently of all associations, is very beautiful; but every nook of it reminds you of the unhappy bard. All these spots I visited with great delight. The cottage is now a public-house, kept by an old sinner who was often a boon companion of Burns. He boasted of the glasses he had drunk with the poet. 'Perhaps too many,' I replied. 'Nae, Sir, Burns was never the worse for drink.' In a small inner room I found about half a dozen topers making an unhallowed offering under the picture of the poet; for they were 'mortal fou,' at least they seemed so to me, though I dare say they would have thought, like mine host, that they were 'nae worse for drink,' and have told me

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> 'We are nae fou, we're nae that fou,
> But just a drappie in our e'e &c.'

"I was delighted with Burns' poetry when I was a boy, and I like it still. His love-songs are, I think, the best that ever were written; for they seem to spring directly from the heart. He was a highly gifted being, and had a tender conscience; but he had strong, untamed, passions, and no steady principles, and therefore often did what was wrong and often was unhappy.

1841. Æt. 56.

'Oppressed with grief, oppressed with care,
A burden more than I can bear,
I sit me down and sigh:
Oh life! thou art a galling load,
Along a rough and weary road,
To wretches such as I!'

"What a picture of human misery! and I believe there is that about it which tells us of the real experience of the writer, and not of fancy's dreams. But I must go on, and turn my back upon the auld kirk."

From Ayr Sedgwick struck inland, and reached the valley of the Clyde by way of Kilmarnock. There he did some geological work, and after seeing the falls, descended to Glasgow. Here we will resume his own narrative.

"Leaving Glasgow, I went by steam as far as Greenock; and then in an open carriage along the beautiful coast of Renfrewshire, and a part of Ayrshire. The weather was then most charming, and the lights all that the imagination could wish, and the succession of objects most soul-inspiring. The driver looked round in pity, and thought I was going mad; for I could not conceal my raptures, and was continually talking to myself. The shore too is not only well broken and finely indented; but, strange to tell, is well wooded. For the great headland of Cantire, Arran, and the southern Hebrides act as a shelter to the coast, so that trees flourish almost to the water's edge. The same evening I joined Mr Moore junr.[1] at Maybole, and the rest of my tour was made in his company. I found him a very agreeable companion, and we did some good under-ground work together. One evening we missed our way, while on foot among the mountains, and were benighted; but before midnight we made our way to a little village where we were most kindly taken in, and most kindly treated. The little village where we found beds is called Dalmellington, and they have an odd custom. At five in the morning, when the weather is good, they go round the village with drum and fife, to tell the people to rouse themselves. Should

[1] John Carrick Moore, F.R.S., author of some valuable geological papers.

the weather be bad, they go round, at the same hour, with horns which they blow dolorously. But I slept so well, after my long walk, that the drum and fife had no effect on me, though they roused my fellow-traveller. After threading our way in the wild valleys above the village, and examining some fine coal-fields (where that mineral is close to the surface, and is sold for two and eightpence a ton, but is raised in no great quantity because of the difficulties of carriage) we turned westward, and crossed the fine wild chain of Galloway for thirty miles, with hardly any company but grouse and black cock; and so descended to Wigton Bay on the north side of the Solway Firth. Many a time and oft have I gazed on this noble coast from the Cumberland side, and longed to thread my way among its islets and promontories. Now, I have been amply gratified. And, being sheltered from the north by high hills, and looking out to the south, it presents a succession of beautifully snug bays and creeks, the sides of which are well cultivated, and decorated with pleasure-grounds. The country has also another source of interest, being the scene of one or two of Scott's novels. I was greatly charmed with it, and think it incomparably superior to the Cumberland coast, which possesses indeed very little interest. We ascended to the neighbourhood of Lochmaben, not to look at Bothwell's castle, but to look at the footsteps of ancient monsters, which are seen on the stone of that country. The great naturalist Sir W. Jardine had made a collection of these impressions, so we went to his house at a venture, and were most hospitably entertained by him. He lives in a good ugly modern house, near the fine old square tower of his ancestors. One of them took an English borderer prisoner, who by some mistake was starved to death in the dungeon. The enraged ghost long haunted the castle out of revenge; but was at length laid by an old *Meenister* in the days of James the First; but not till after public prayers in the parish church, and a procession in which a large black-letter Bible was carried to the haunted room and deposited in all due

1841. Æt. 56.

1841. Æt. 56. form on a large oak table, there to remain till the end of time. There the large folio remained till about the end of the last century, when the father of the present Baronet removed it, put it in repair from the effects of 200 years damp, and deposited it in a large oak chest as a family curiosity. This sacrilegious act inspired all the good people round about with terror; but they gradually recovered, and the ghost has now the castle to himself, and behaves himself very gently. Last Thursday we ended our tour at Carlisle; I came on to Dent, and Mr Moore returned to his family in Wigtonshire[1]."

Sedgwick's object in taking this rapid tour can only be understood by recollecting that his whole geological life was dominated by his intention to write a general work upon the Palæozoic rocks of England and Wales. This intention was so often interrupted for long periods, and he says so little about it in his letters, that there is sometimes danger of forgetting that the different pieces of research into which he threw himself so energetically were in fact only parts of this general design. Unfortunately it was conceived on too large a scale, and conducted with too much minuteness of detail, to be completed in a life-time so much taken up by other occupations, and so harassed by continuous and increasing ill-health. Material was accumulated year by year, but the leisure for making use of it never came, and at last, as he sadly admitted at the close of his life, "the infirmities of old age had gathered round me before I had put my work in order." In 1841, however, he was still full of hope, and, as soon as the last paper on the Devonian system was out of hand, he set about the task of revising his old work in Wales and Cumberland, with the idea of bringing the several Palæozoic groups into good coordination, and of constructing a classification which would apply to every portion of the older rocks of Great Britain[2]. The districts examined in Ireland and Scotland supplied facts bearing upon this

[1] To Miss Stanley, from Dent, 6 October, 1841.

[2] *Preface* to Salter's *Catalogue*, pp. xxiii—xxv.

revision, and they were presently embodied in a *Supplement to a Synopsis of the English Series of Stratified Rocks inferior to the Old Red Sandstone*, read to the Geological Society in November, 1841. The paper brought forward additional confirmation of his views as to the classification of the rocks of Devon, as well as a modification of the views advanced in a paper with a similar title laid before the Society in 1838. 1841. Æt. 56.

When Sedgwick reached Trinity College at the beginning of the last week of October, he found that a great change had taken place in his absence. Dr Wordsworth, who had been Master since the death of Dr Mansel in 1820, had resigned, "to the astonishment of everybody[1]," and Sir Robert Peel had nominated Whewell in his room. It is now known that Wordsworth, who had for some time contemplated this step, waited for the fall of Lord Melbourne's government, with the object of securing, not merely a conservative, but the particular conservative who succeeded him. Under other circumstances his successor would probably have been either Peacock (then Dean of Ely), or Sedgwick; and it is certain that the Mastership of Trinity College was the one office that the latter would have joyfully accepted[2]. Whewell was no doubt well aware of this, and in consequence wrote to tell Sedgwick of his appointment in a somewhat apologetic tone:

16 SUFFOLK STREET, PALL MALL:
October 19th, 1841.

My dear Sedgwick,

I do not know whether you have heard of the events which have been taking place of late with reference to Trinity College—events so important that it will take a little time to look at them calmly. The Master has resigned; and, upon coming to town, I find that Sir Robert Peel offers me the Mastership. This offer I have accepted.

At present I look with alarm at the thought of being placed in a position of rule over persons my seniors in standing, and my superiors, as I sincerely believe, in the qualities requisite for the

[1] To Isabella Sedgwick, 23 October, 1841.

[2] This statement is made on the authority of Miss Sedgwick.

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government of the College; and I especially feel myself out of my place in being made superior in *status* to yourself. But the turn of public affairs has brought about this result, and I had no alternative except to accept the office which is thus placed in my way, or to retire from all public life whatever. My main anxiety now is that the Fellows of Trinity, with whom up to the present time I have lived in good-will, and in cordial sympathy for the interests and honour of the College, should aid me in promoting these in my new capacity. I trust, my dear Sedgwick, that you and I, who both feel deeply on these subjects, shall find little difficulty in bringing our views into agreement as to the mode in which our objects are to be secured. And I entertain little doubt that we shall be able to do this, believing as I do that our views, at bottom, are very little different. I will not easily be persuaded that we shall not agree on all main points of College administration; and, if I have with me your judgment, I shall feel great confidence that I am following the right course, and great hope of success....

Always, my dear Sedgwick,

Affectionately yours,

W. WHEWELL.

Sedgwick may have hoped to be Master of Trinity; but no feelings of jealousy or regret betray themselves in his cordial reply to Whewell: "It is well for a man to think humbly of himself," he says, "but I assure you, that of all men living, you are by common consent thought most worthy of the high honour of ruling our great intellectual body; and I feel confident that with God's blessing it will be a source of happiness to you, and of great good to our Society.

"As for myself, it will delight me to give you all the help I can. Our objects will, I trust, always be the same. We may differ sometimes as to means, but our difference will be frank and open, and such as is compatible with the warmest friendship. When I took the Geological Chair I gave up the studies which are connected with the ordinary training of our young men. On this account I should be ill-fitted for those duties for which you are at every point so admirably prepared. You are now in your right place; had I gained your present position I should have been out of my right place[1]."

[1] *Life of William Whewell*, by Mrs Stair Douglas, p. 230. The original of this letter cannot now be found.

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The term which began with this unusual excitement was very fully occupied. "I have often been rather busy at Cambridge" Sedgwick wrote, "but never, I think, so busy as I have been this term. Six days a week lectures—papers for the Geological Society of London and for the Cambridge Philosophical Society—proof-sheets and a very large correspondence, have hardly left me time for eating or sleeping." To this catalogue of occupations his social duties might have been added, for in one of his letters he mentions, among other engagements, dinners and evening-parties at the Lodge under the new regime. "What a change," he adds, "since the late Master's time, who lived like a hermit." Nor must another matter be forgotten—the purchase for the Woodwardian Museum of a skeleton of a *Plesiosaurus*[1] from the Whitby lias, of unusual size and completeness.

To the Members of the Senate and other resident Members of the University.

TRIN. COLL. CAMBRIDGE,
Nov. 19, 1841.

Gentlemen,

As Curator of the Woodwardian Museum, I take the liberty of laying before you the following statement. In course of last summer a magnificent *Plesiosaurus* was dug out of the cliffs near Whitby, and was offered to the British Museum for £500. The offer was refused, not merely on account of the large price demanded, but because the Museum already possessed an excellent series of specimens of that fossil genus. During the autumn Dr Clark (our Professor of Anatomy) saw the specimen while it was publicly exhibited and advertised for sale. Several large offers had then been made for it from more than one quarter: as the only means of securing it for Cambridge, he made a still larger offer, and soon afterwards completed the negotiation, at his private risk, by purchasing the specimen for £230. I claim no divided honour with him in this spirited and liberal act; for the negotiation was begun without my knowledge, and I did not receive his letter, informing me that he had first offered £200 for the specimen, and meant if possible to purchase it for the University, till after my return to Cambridge. But I feel deeply grateful to him for what he has done; and I should have rejoiced to divide with him the responsibility of the

[1] It was believed to be a fine specimen of *P. dolichodeirus*, Conybeare, until 1865, when it was described by Mr H. Seely (*Annals and Magazine of Natural History*, xv. 49) as *P. macropterus*.

1842. Æt. 57. purchase. There is certainly no place in the University so proper for the reception of the fossil, as the GEOLOGICAL MUSEUM. But in the present state of the Woodwardian surplus, nearly exhausted by the expensive fittings of the New Museum, I do not think myself justified in applying to the Heads of Houses, and requesting them to become the purchasers of the fossil out of the funds of which they are the Auditors. I therefore take the only step that is left; and venture respectfully to call upon the Members of the University, who are interested in the honour of our Collections, to assist me by a subscription, and to enable me to give the fossil a permanent place in our Geological Museum. For the present it is deposited in the Lecture Room under the new wing of the Public Library; and may, on application, be seen by any Member of the University.

I have the honour to be, Gentlemen,

Your very faithful Servant,

A. SEDGWICK.

This vigorous appeal—not to speak of private letters to his brother Professors, and to personal friends—was thoroughly successful. In a few weeks £264. 18*s.* 6*d.* was collected; a sum sufficient to discharge all expenses, and to leave a small balance in hand with which the Woodwardian Trustees agreed to purchase other fossils.

A succession of visitors from Cambridge, among whom were the new Master of Trinity and his wife, enlivened Sedgwick's usual winter residence at Norwich. We get a glimpse of some of them in a letter to Whewell:

NORWICH, 15 *February*, 1842.

"...I am glad you are bringing the statutes to the anvil. Why our late Master hung fire so long I never could well make out. Of course nothing will be done finally before I come back at the end of this month....After you left us I had a party of *five* + maidkin from the Marchesa's. Then a breathing-fit of nearly a week, when Major Willoughby Moore and Mrs Moore and Maud gave me a benefit of ten days. During the time, the Astronomer Royal dropped down from the end of the great Bear's tail into the Close, and alighted as softly as if he had come with the wings of Iris, and had slid down her golden arch. His stay was

very short; for the moment his feet touched the back of old Mother Earth there was such a magnetic storm in Greenwich Park that they were obliged to send post for him to come to quell this insurrection among the needles. The Major and his Lady left me last Saturday. But my sister is now here; so I am again a family man...." 1842. Æt. 57.

The revision of the Elizabethan Statutes of Trinity College, alluded to in the above letter, had been agreed to by the Seniority four years before. Whewell, as great a contrast to his predecessor in business as in hospitality—was anxious to persuade the Seniors to undertake the work at once, and then "to go on as fast as we can, consistently with the gravity and complexity of the matter." It is probable that he had talked it over with Sedgwick at Norwich, for he alludes in a letter to "the special points which you mentioned as those on which you had a decided opinion." In fact, as he told Sedgwick, he would have deferred the commencement of the work until his return to College had it been possible, being "very desirous of having the benefit of your judgment in our proceedings[1]." Unfortunately we do not know what Sedgwick's views were, but the Memoranda kept by the Master shew that he attended the revision-meetings regularly from his return till the draft of the Statutes, as altered, was ready for submission to the Home Secretary.

Besides this work, Sedgwick found time, before the end of April, to redeem his promise to Wordsworth, and to write the first three of the five letters *On the Geology of the Lake District*, to which reference has been already made[2]. No detailed account is needed of a work which merely aims at describing, clearly and tersely, for the use of tourists, the ascertained geological phenomena of a special district. Wordsworth's two letters on the subject are unfortunately without

[1] From Rev. W. Whewell, 8 February, 1842. The letter is printed in full in Whewell's *Life*, p. 259.

[2] Vol. I., pp. 246--249.

1842. Æt. 57. date—but it is clear that the first must have been written before Sedgwick had proceeded far, the second after the completion of his first letter.

My dear Sir,

You have much obliged me by the promptitude with which you have met the request made through an Acquaintance or Friend of my Publishers[1]; and I should be very happy to be the Medium of conveying to the public your view of the Geology of this interesting District, however concisely given. First, however, I must tell you exactly how the matter stands between me and the Publishers. The last Edition of my little work[2] being nearly out I undertook about a twelvemonth since to furnish some new Matter in the way of a more minute Guide for the *Body* of the Tourist, as I found that the Guide Books which attended mainly to this were preferred much, by the generality of Tourists, to mine, which, though in fact containing as much of this sort of matter as could be of any real use, appeared to be wanting in this respect. The employment to which I had by a sort of promise committed myself I found upon further consideration to be very troublesome and *infra dig.*; and as I was still desirous that my Book should be circulated, not for any pecuniary emolument, for that was quite trifling, but for the principles of Taste which it recommended, I turned all that I had written over to Mr Hudson the Publisher, stipulating only that all that related to *mind*, should in my book be printed entire and separated from other matter, and so it now stands. Every thing of mine will be reprinted, but the *guide matter* of mine will be interwoven with what Mr Hudson has undertaken to write or compile, the whole however before struck off to be submitted to my approbation. Mr Gough of Kendal, Son of the celebrated blind man of that place, will, Mr Hudson expects, promote the Botany, and if you would condescend to act upon your promise made to me long ago under somewhat different circumstances, I think a Book would be produced answering every purpose that could be desired.

I am truly sorry, my dear Sir, to hear that your health is so much deranged. I believe that the bottom of it all is, your intense ardour of mind, and activity both of mind and body. In fact you have been living too fast; pray slacken your pace, and depend upon it you

[1] Mr F. C. Danby of Kendal. He acknowledges the receipt of the MS. of Sedgwick's first letter, 2 May, 1842. The date appended to the printed letter, 23 May, was probably added when it received the author's final corrections.

[2] Wordsworth's *Description of the Scenery of the Lakes in the North of England* first appeared in 1810, as the Introduction to a folio volume of *Select Views in Cumberland*, etc., by the Rev. Jos. Wilkinson. It was reprinted, with additions, in 1820, in *The River Duddon, a Series of Sonnets;* and reissued by itself in 1822. In this form it went through several editions. See *The Life of William Wordsworth*, by W. Knight, 3 vols. 8vo. 1889, ii. 153.

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will not only, in a little time, be more comfortable in yourself, but the world will in the end get more out of the very great deal that you have to give it. We are pretty well and unite in kindest remembrances and good wishes.

Ever faithfully, My dear Mr Sedgwick,

Your much obliged,

W. WORDSWORTH.

Pray give me a letter, however short.

Wednesday.

My dear Sir,

I snatch a moment from the hurry of this place to thank you for the first of the series of Letters on the Geology of the Lake district which you have done me the honor of addressing to me. I received it yesterday from Mr Danby, liked it very much, and am impatient for the rest. It will give the Kendal lake Book so decided a superiority over every other, that the Publishers have good reason to rejoice[1]. I am happy to think that my endeavours to illustrate the beautiful Region may be thought not unworthy of accompanying your scientific researches. I address this to you at random, but hope it will be forwarded should you be no longer at Cambridge.

You perhaps don't remember that the Pocket Hammerers were complained of not by me in my own person, but in the character of a splenetic Recluse[2]; I will, however, frankly own that to a certain extent *I sympathised* with my imaginary personage, but I am sure I need not define for you how far, but no farther, I went along with him. Geology and *Mineralogy* are very different things.

Ever, my dear Mr Sedgwick,

Faithfully yours,

WM. WORDSWORTH.

I hope your health is improved.

The next two letters explain themselves:

Monday morning, *May 2nd*, 1842.

My dear Fankin,

I have not time to write a long letter, and I am in bad spirits, for my old enemy the rheumatic gout, has, for

[1] The book now published was called: *A Complete Guide to the Lakes*, comprising minute directions for the Tourist; with Mr Wordsworth's description of the scenery of the country, etc.: and three letters on the Geology of the Lake District, by the Rev. Professor Sedgwick. Edited by the Publisher. Kendal, published by John Hudson.

[2] See Vol. I., p. 247.

1842. Æt. 57. some weeks past, been tormenting me above measure. And I have no comfortable rest at night; for my enemy is then most active in tormenting me, and almost takes away all power of sleeping. The consequence is, that I rise in the morning unrefreshed, and out of spirits. My friends are surprised to see me returning from a long walk about the time that they are rising. But I have no merit in rising with the lark. It is not to sing a cheerful glad song to the sky; but because bed is no resting-place to my weary limbs; and I am glad, almost as soon as it is light, to change my posture, and try to shake off my infirmities by brushing over the country, though the movement puts my feet to much uneasiness. And, do you know, I am so sour-faced and ill-tempered, and abominably cross, and so hate myself, that I do not think you would now, if you saw me, give me one corner of your heart, or a single kiss. You might just as well kiss an old decayed thistle, which would leave its prickles sticking to your lips. Is not this a sorry account to give of myself? But alas! it is not more sorry than true[1]....The inspection of my Museum is going on. To-morrow is the annual audit of my accounts; and if I am reported a good boy, they may perhaps pay me my salary. And on Wednesday evening I am to have at my rooms a large meeting of what we call the Ray Club[2], so that my hands are very full of engagements....There! the clock is striking, and I must off for my morning's walk. So no more at present....

[1] The omitted passages in this letter describe the visit of some friends, who breakfasted with Sedgwick, and saw the principal sights of Cambridge under his guidance.

[2] Professor Henslow had been in the habit of receiving at his house, on the evening of each Friday in full Term, those members of the University who took an interest in Natural History. These meetings began in 1828 and were continued until the end of 1836. It was then determined to found a Club, to be called *The Ray Club*, after the celebrated John Ray, "for the cultivation of Natural Science by means of friendly intercourse and mutual instruction." Sedgwick was elected 4 December, 1839. See *The Cambridge Ray Club*, by Prof. C. C. Babington, 8vo., Camb. 1887; *Memoir of the Rev. J. S. Henslow*, by Rev. L. Jenyns, 8vo., Lond. 1862, Chap. III.

Tuesday morning, 8 a.m. 1842. Æt. 57.

After breakfast yesterday, I was very busy with my Inspectors. The old original Woodwardian Collection, consisting of about 10,000 specimens, has, during the past year, been removed into a new Museum; which I will show you when you next come to see me. All the specimens and drawers were on the floor while the old cabinets were repairing, and fitting to their new places; and they remained there for several weeks. And how many specimens do you think are lost, now that they have been compared with our catalogue of five volumes? Not one! There's a careful uncle for you, Miss Scatterbrains! The more modern part of my collection consists of 50,000 or 60,000 specimens, and it will take three or four years' hard work to put them in any order....Last night I slept much better, and this morning I rose at six, and had a walk of more than four miles before breakfast. Indeed I have hardly done breakfast yet, for I have been scribbling to you between my cups of coffee. And have I not done well to get on so far without once slopping the paper? But we are notable folks at Dent, and can do four things at a time[1]. Thank God, I *am* very much better to-day. And now for pounds shillings and pence, and yearly accounts as long as a tailor's measure! But perhaps they do not measure for petticoats with long slips of parchment, like those they use in taking the length of a man's shanks, and therefore my comparison will not much help you. But enough! so again good morning, Mrs Fankinette.

Thursday morning.

I was so busy yesterday that I had not time to finish my letter. On Tuesday I went over the long annual accounts of the Museum, and ended by dining with the Vice-Chancellor. Dr Woodward, who founded my Professorship, was a sensible, good-living, man; and he ordered the Vice-Chancellor at the

[1] The allusion is to an old rhyme current in the dale of Dent, quoted above, Vol. i., p. 16.

1842. Æt. 57. annual Woodwardian audit to give a good dinner, and to see that all his guests gladdened their hearts with the best French wines, such as burgundy, and claret, and champagne. Sure enough, all this is in his Will, by which he bequeathed to us our Collection[1]! So we all make a kind of conscience of eating and drinking quite as much as is good for us at that annual dinner. But what a poor miserable starveling I am now become! Once I drank champagne like a good Christian of the true Woodwardian sect. I afterwards fell away from this pitch of excellence; and only listened to the popping of the bottles, and the gentle sisling noise made by the long frothy glasses as they shot past my ears to the mouths of my auditors. But still, I kept up some claim to orthodoxy, by drinking three glasses of sherry. At this low, half puritanical, pitch of conformity, I remained some fifteen or sixteen years, and then I fell away to the rank heresy of water. You have heard that people are known to die of hydrophobia; but my disease now is hydrophilia, quite as deadly as the other, give it time enough; but it is not so rapid in putting out the vital flame. Now alas! I am sunk, in the eyes of all good Inspectors and Auditors, to the lowest pitch of human degradation; for I drank only water, and ate only vegetables, and the plainest bit of pudding I could pick out. Yes! I think I may go one step lower; and next year the Vice-Chancellor will have to provide me with two or three inflated air-cushions, which I may suck while they are dining and drinking Burgundy. Such diet would be very appropriate: for I have always to make a long speech that day; and wind, you know, is the most important element of every speech; so that good speeches are sometimes said to contain nothing else."

Then, after more pleasant talk, about common friends, the Ray Club, etc., this careful uncle throws in some serious advice on study and conduct, and concludes as follows:

[1] What Dr Woodward really said about the dinner in his Will has already been related, Vol. i., p. 184.

"Pray don't think that my gravity in this page is inconsistent with the levity of my two first sheets. I don't want to mope you. I wish you to be merry and wise; cheerful, happy, and good. I should wish the mind of my own daughter to be tenanted by beautiful and good images, so that the sweetest thoughts might spring up in her mind spontaneously, and in the sweet company of all the good thoughts she had treasured up by good training. So, my love, lift up your little mouth, and give me a kiss. Thank you. 1842. Æt. 57.

Ever affectionately yours,

A. SEDGWICK.

P.S. Have I not told a great big fib in my first line!"

To Rev. P. B. Brodie.

[*May*, 1842].

"...Our Museum is now all glorious to behold—we are going to stick up against its walls a noble *Plesiosaurus* 16 ft. long—a perfect beauty of its kind. Ansted is still in Cambridge, and working very hard, so that we are, we now think, worth looking at, and so you will say when you come to take your M.A. degree. There are no bad countries for geology—change your tools with your ground—keep your eyes wide open—and you may find a harvest everywhere—there are no barren fields to a true lover of nature. And, like a good son of *Alma Mater*, think of your nursing mother, and send all your best things to our Museum (a *reasonable* request! is it not?)..."

The British Association met this year at Manchester. Sedgwick was one of the Vice-Presidents, and we find him frequently taking part in the discussions of the Geological Section. He was still far from well, but when the subject of the elevation of great mountain-chains came forward, he spoke with much animation. "I was disgusted" he told Murchison "with the heels-over-head way they generalized, but I was so ill that I could not on that morning make any fight."

1842. Æt. 57. In the evening, however, when the members of the Association met at dinner, and he was called upon to propose the Literary and Philosophical, and other scientific societies of Manchester, coupled with the name of the illustrious Dalton, whose statue, by Chantrey, had lately been placed in the entrance-hall of the Manchester Royal Institution, his eloquence betrayed no sign of fatigue or illness. "Seeing that magnificent statue," he said, "worthy—if any statue be worthy—of that great philosopher; and worthy of that dear departed friend of mine, Chantrey,...it occurred to me that there was something kindred in the characters of those men. Both rising to fame and name from a humble beginning; both men of great sincerity of character; both having a strong love of nature; these were some of the circumstances which characterized them; and through that statue will their names be handed down to posterity, as by something which associates and binds them together in the minds of yourselves and your children, and your children's children, to ages yet unborn."

In the next place he described a walk he had taken through the streets of Manchester "amidst the smoke of chimneys and the roar of engines;" and then he came to speak of the artisans:

"In talking to men whose brows were smeared with dirt, and whose hands were black with soot, I found upon them the marks of intellectual minds, and the proofs of high character; and I conversed with men who, in their own way, and in many ways bearing upon the purposes of life, were far my superiors. I would wish the members of the British Association to mingle themselves with these artisans, in these perhaps overlooked corners of our great cities; for, as I talked with them, the feeling prevailing in my mind was that of the intellectual capacity manifest in the humbler orders of population in Manchester. This is a great truth, which I wish all the members of this Association to bear away with them, that while the institutions and customs of

man set up a barrier, and draw a great and harsh line between man and man, the hand of the Almighty stamps His finest impress upon the soul of many a man who never rises beyond the ranks of comparative poverty and obscurity.... 1842. Æt. 57.

"Do not suppose for a moment that I am holding any levelling doctrines. Far from it. I seek but to consolidate the best institutions of society. But I do wish that the barriers between man and man, between rank and rank, should not be harsh, and high, and thorny; but rather that they should be a kind of sunk fence, sufficient to draw lines of demarcation between one and another, and yet such that the smile of gladness and the voice of cheerfulness might pass over, and be felt and heard on the other side."[1]

After the meeting of the British Association, Sedgwick returned to Cambridge, where the Public Commencement, at which the Duke of Northumberland was installed Chancellor of the University, detained him till the end of the first week in July. His vacation began with "a quiet idle week" at Cheltenham, partly because the waters had done him good on a previous visit, partly because he needed rest before beginning his geological campaign. This, like the tour in Ireland and Scotland in the previous year, was intended to be merely preliminary to his literary work. "If God spare my health," he had written to Murchison early in the year, "I begin my work this spring. Already I have engaged an amanuensis to attend at six every morning. But of this by the way. I must again look at the upper rocks of Westmoreland, which I have hardly looked at since 1822! and also I must visit for a few days the sections in the north of Denbighshire." The amanuensis, as we know, had a sinecure; and the visit to Wales extended over several years.

[1] From the Supplement to *The Manchester Guardian*, 29 June, 1842.

1842. Æt. 57. Sedgwick was accompanied for a short time by his friend Mr Griffith; and, for the first time, he took with him an assistant in the person of "an excellent young naturalist[1]," Mr J. W. Salter, who had drawn and engraved the plates for *The Silurian System*, and in consquence proved "of infinite use" to him "by his admirable and ready knowledge of the characteristic fossil species[2]." His primary object was to revise the work he had done alone in 1831—32, which, to his great satisfaction, he found had been right in principle, and stood the test now applied to it. He gives the following resumé of what he and Mr Salter accomplished:

> We examined in great detail the two lines of the Bala Limestone caused by synclinal flexure, securing our work by tracing both beds along their strike, and in this way we demonstrated that the more eastern limestone bands in the Llanwddyn valley were identical with the eastern bands that cross the road between Bala and Llangynog. We also carefully mapped a part of the country east and north of the northern Berwyns; and we completed in great detail sections which connected the Silurian rocks south of the Tannat and north of the Ceiriog, shewing the emergence of the old Cambrian rocks which pass through the intervening country and form the highest crests of the Berwyns. We also examined the great fault S. E. of Llanwddyn, which produces an entire inversion of the strata through a range of several miles. This fact I had first observed in 1832, and had verified it by following the inverted beds along their strike till they had regained their normal position, and we found that we had no corrections to make in this portion of my old sections of 1832. I mention these facts only to shew how conscientiously our work was done. We sought the truth, and would have embraced it, to whatever conclusions it might lead us[3].

The Welsh tour was of necessity shortened by Sedgwick's being obliged to go into Residence at Norwich for the months of October and November. This change, by no means agreeable to himself, was rendered necessary by the circumstance that Dr Philpott, Master of St Catharine's Hall, who

[1] To Isabella Sedgwick, 1 September, 1842.

[2] *Preface* to Salter's *Catalogue*, p. xxiii. An interesting biography of Salter is given in the Anniversary Address of the President of the Geological Society for 1870 (Professor Huxley). Quart. Journ. Geol. Soc., Vol. 26, pp. xxxvi—xxxix.

[3] *Preface*, ut supra, p. xxiv.

was junior Canon, was detained at Cambridge by his duties as Vice-Chancellor. It had been Sedgwick's intention to work out his Welsh notes during his Residence; but a long bout of influenza and painful gouty symptoms put an end to all serious occupations; and, when his Residence ended, he hastened to Dent. He had not spent Christmas with his family for thirty years. Finally he reached Cambridge in January, after an absence of nearly six months[1]. 1843. Æt. 58.

He was making good progress with his geological work, when he received an invitation to witness the great blasting operations about to take place at Dover. The temptation was irresistible. "Perhaps I may be converted into a *nebula*," he wrote to a friend in Yorkshire; "so look out for a new one high in the sky, and with bearing of a line drawn from York to Dover. There, John! pack away, or we miss the coach! off like gunpowder!"[2] What he saw, and what he did afterwards, is recorded in the following letters:

LONDON, *January 28th*, 1843.

My dear Fankinette,

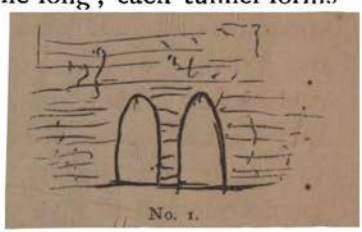
Last Wednesday morning the post brought me a letter from Mrs Airy (the wife of the Astronomer Royal, you must have heard me speak of her a hundred times) urging me to meet them at London, and push on that night by the new railroad to Dover. There they were to meet Sir John and Lady Herschel, and next day were to see a grand sight —the blowing up, or rather perhaps I should say, the blowing down, of a great chalk cliff, higher by about 100 feet than the famous Shakespeare cliff so beautifully described in *King Lear*. So turn to that noble passage of the greatest of all poets, and get it off by heart before you eat your next meal, and you will find your digestion all the better for the work. Well, I instantly packed my bag, ordered horses to the terminus at Hockerill, and thence skated away to London.

[1] To R. I. Murchison, January, 1843.
[2] To Rev. C. Ingle, 25 January, 1843.

1843. Æt. 58. But alas! I was half an hour too late, and had to wait an hour and a half at the inn near London Bridge, where I am now writing on my return. The evening train, however, conveyed me to Dover, but too late to see my friends.

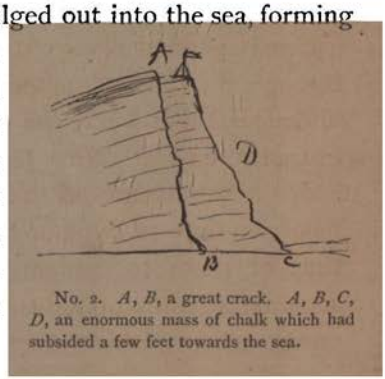
Next morning (Thursday) I found all my friends well and in high spirits. The day was fine for January, and sufficiently clear for us to catch occasional glimpses of Cape Blanc-Nez on the French coast. After breakfast with the Directors of the great works, Mr Cubitt the head engineer, General Paisley who has been employed in blowing up the wreck of the Royal George, and several scientific men, we started on a voyage of discovery. We examined finished tunnels, and unfinished tunnels, and cuttings, and viaducts, and I know not what; and we then mounted a cliff 530 feet high by steps cut in the chalk, and proceeded to look at the great galvanic batteries that were to fire the magazine.

From Dover, right under the Shakespeare cliff, is a magnificent double tunnel nearly a mile long; each tunnel forms a gothic arch 30 feet high, somewhat as follows:



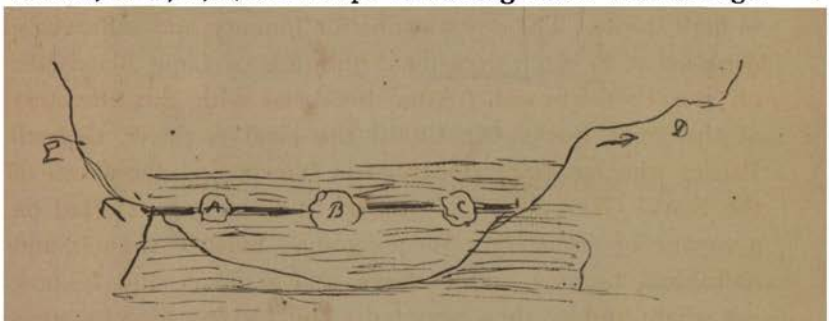
No. 1.

My beautiful drawing (No. 1) speaks for itself; only suppose the beds of chalk to rise about 300 feet above the two openings. Beyond Shakespeare's cliff is another, called Round Cliff, considerably higher; I believe nearly 400 perpendicular feet above the water's edge. This bulged out into the sea, forming a kind of buttress; and in attempting to extend the tunnel through it, they found it full of cracks and small fissures, and so incoherent as to endanger their works. A large mass of it actually slid down several feet, somewhat in the following manner (No. 2):



No. 2. *A*, *B*, a great crack. *A*, *B*, *C*, *D*, an enormous mass of chalk which had subsided a few feet towards the sea.

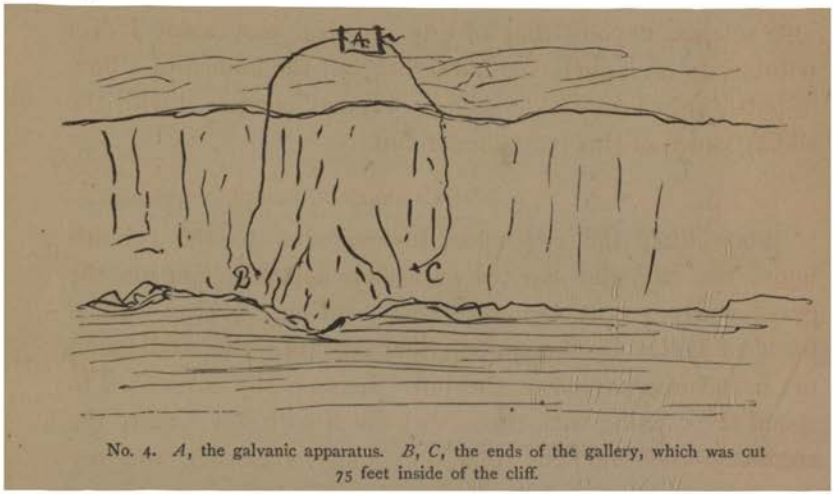
What then was to be done? Mr Cubitt drove a gallery through the base of the great mass, and in it deposited 185 barrels of gunpowder, each containing 100 lbs. of powder. They were placed in three chambers of the excavation, as follows, at *A*, *B*, *C*, and a rope containing a wire went through 1843. Æt. 58.



No. 3.

the three chambers, and so ascended from the two ends of the gallery to the top of the cliff, and thence to a galvanic apparatus at a safe distance on the land-side. All this done, the galleries were again filled up, and well plugged with rubbish, just as they tamp down the powder in the hole where they blast a common rock. From the point *B* to the outside of the cliff was just 75 ft. measured in a straight line. I cannot pretend to give you a regular lecture on galvanism, but you can understand (or take on trust) that when the wires *E*, *D*, were properly connected with the great galvanic batteries at the top of the cliff, the galvanic fluid then made a circuit, passing along the wire, and therefore passing right through the piles of gunpowder at *A*, *B*, *C*. You may also understand that where the wire is very small and fine it turns instantly red-hot. Now just in the centre of the gunpowder heaps it was contrived that the wire should be very fine. I have not time to explain how this was done, neither have I time or room to explain some other contrivances (such as separate streams of galvanic fluid sent to each chamber to ensure success) which are not necessary to make you under-

1843. Æt. 58. stand the principle. I wish I could draw better, let me try:



No. 4. *A*, the galvanic apparatus. *B*, *C*, the ends of the gallery, which was cut 75 feet inside of the cliff.

With such a beautiful drawing you *must* be dull if you do not understand. The object was then to fire the great magazine of gunpowder in this way, and so to bring down the great mass represented in No. 2 (*A*; *B*, *C*, *D*). A great multitude of persons were collected; the scenery was glorious; we were almost lifted off the earth with expectation; signals were hoisted; guns were fired; soldiers kept the multitude at a safe distance. At length came a signal (a discharge of 40 pounds of powder) which told us that in one minute exactly the connecting wires would be joined, and the magazine fired. We could hardly draw breath. A sound, between a groan and a sob, was heard; the ground gave a gentle heave, the base of the cliff bulged out like a barrel, and the rocks began to gape. Instantly after, the flagstaff at *A* (No. 2) began to sink, and the whole cliff slid down to the base, seeming to have changed its nature, and suddenly become semi-fluid; and in about a minute the whole descending mass was spread over about twenty-five acres of ground, the outer part encroaching on the sea. I never saw a more glorious sight. There was very little noise, and not a puff of

smoke was seen, so completely was the magazine buried under the enormous ruin it had occasioned. All was calm and solemn, beyond that of any physical movement I ever witnessed. A launch is a fine sight; but the launch of a line-of-battle ship is a cockle-shell movement compared with the sliding down of this magnificent cliff. 1843. Æt. 58.

CAMBRIDGE, Saturday evening.

Soon after the explosion I descended to the rubbish under the cliff, and saw the unbroken flagstaff lying on the grass nearly 400 ft. below its first position. I then walked back to Dover by the top of Shakespeare's cliff, and found my friends assembled at the inn. I was easily persuaded to spend the evening with them, so I dined with Mr Cubitt the engineer, and met Sir John and Lady Herschel, and my dear friends Mr and Mrs Airy, and a right merry and happy evening we all spent together.

Next day I went in a fly to Folkestone, and examined some other great excavations, hoping to pick up some good fossils; but the ground was wet, and like bird-lime; so that I pulled off the cloth top of my right boot, and was compelled to go 4 miles hopping on my left leg and sliding on the other, to the great amusement of the sailors and workmen I passed on the road. At length, however, I reached my fly again, and pushed on to the terminus, hoping to meet my friends the Airys and the Herschels there, but they had, I suppose, stuck in the mud like myself and were too late for the four o'clock train. Three hours brought me to London, and last night I took up my quarters in a new and magnificent inn near London Bridge, built expressly to catch railroad passengers. Plenty of soap and water, a hot bath, and then a good scrubbing and brushing put me once more to rights; after which I smoked a cigar with a philosophic quaker whom I met on the road. We discussed religion, politics, chemistry, and geology till our smoke failed; after which we retired to our sleeping-dens. This morning, while in the coffee-room, I

1843. Æt. 58. wrote all the early part of this beautiful letter, beautiful from its subject, and still more from its penmanship, and its sublime drawings. Pray begin from this day the art of design, and copy these charming models. Labour, dearest Fan, day and night, until you can produce the like, and then I will sit to you for my picture....So good night, my little sauce-box!

Ever affectionately yours,

A. SEDGWICK.

To R. I. Murchison, Esq.

TRIN. COLL., *January* 31*st*, 1843.

"...I think of publishing as a large pamphlet or little book, my synopsis of the classification of the old rocks of England and Wales etc, with a few sections and plates of fossils. Some of the fossils were actually, I believe, engraved last year by Sowerby, and I meant to present them to your Society, with my memoir a little rubbed up. But then came a five months' intellectual death. This opuscule will be an introduction to my larger work, should I ever have health and courage to go through it, which I trust I shall. Perhaps I may retire for a year into Germany, and hire lodgings at some of the watering-places. This has been recommended, and then I could easily make a smash of my volume. When I am well I can write fast enough. And it seems to me now that all my materials are well in hand. But at Cambridge I am bothered out of all my senses...."

Sunday Morning, 19 *February*, 1843.

My dear Ingle,

...I am now much better, though the root of the malady is in me, and I cannot get back my power of sleeping. I believe a few doses of colchicum would take away the irritation (especially during night) of my sinews and muscular fibres, but Haviland for the present forbids its use, as he thinks my malady chiefly nervous. And so, no doubt, it is; but where is the cause, the lurking cause, of the mischief? A gouty

diathesis, as the doctors call it, and a constitution without energy to smother it, or throw it out in an active form, so as, after a few good useful racks of pain, to have done with it. I had this dire disorder five months, beginning with last spring. 1843. Æt. 58.

On Friday I went up to the anniversary of the Geological Society, and the excitement of the day, *for the time*, did me much good, and I spoke as well as I have ever done. But then came a collapse, and now (Sunday morning) I have risen after a very bad sleepless night, and I am cramped by rheumatic pains brought on by the cold of yesterday during my journey back to Cambridge. But *mum* as to these confessions; I tell them to no one but you; and I train myself to be cheerful among my brother-fellows, or at least to seem so, and they only think me now and then haunted by fancies. But it is not fancy that makes me look at my watch every hour of the long night—and it is no fancy that makes me, hour after hour, count the clank of our clock bells..."

To Rev. P. B. Brodie.

CAMBRIDGE, *May* 30, 1843.

"...I shall be most happy to be Godfather to your first-born. You say you wish he may follow my example in all respects. I say, God forbid! There are 10,000 things alas! in which he ought not to follow me. But in all the good I ever learnt from my own Father and Mother, and in all the ill from which (by God's grace and no good of my own) I have been saved—in such things may he follow me, and in no other. To my friends I shew my best face: but by myself I am often oppressed with miserable spirits, and with the consciousness of doing so little of what I ought to do..."

To Miss F. Hicks.

NORWICH, *June* 23, 1843.

"...Do you know that Lough the sculptor has asked me to sit for my Bust? He thinks me so handsome,

1843. Æt. 58. that I half suspect he wants me for a model of some of the heathen gods. He had a figure of Bacchus in this Exhibition, but, as I drink water, he hardly can want me to sit for a new Bacchus. So I suppose I must sit for Neptune, and my hammer must be replaced by a trident. Or perhaps he will dress me like one of the Welsh Rebeccites, and call me a water-nymph. Surely I should do vastly well for a water-nymph! Don't you think so?..."

In June Sedgwick read to the Geological Society his long-promised paper, modestly called *Outline of the Geological Structure of North Wales;* and a fortnight or so afterwards returned to his former field of exploration, accompanied as before by Mr Salter. When he started he said that he should attend the meeting of the British Association at Cork in August, and then "brush up" his old surveys in Westmoreland; but the difficulties of his work in Wales, added to more than usually bad weather, detained him so much longer than he had expected, that he was obliged to give up Ireland in spite of a pressing appeal from Mr Griffith, who protested that "our section will be a complete failure without you." In Wales he continued, and "seemed to bring to a happy end" the revision begun in the previous year. "We came away rejoicing in the thought that we had done our work effectually and to a good purpose." Moreover, in spite of the "wetting and drying, and soaking, and wringing" inflicted on him by bad weather, he found his health improve, and that he could "bear a walk of ten or twelve miles over rugged mountains without feeling any very excessive fatigue[1]."

From Wales Sedgwick went for a short visit to Dent, and thence to Westmoreland. But stormy weather at the beginning of October, with "snow which fell so thick upon the mountains that several flocks of sheep were, in the language of the country, overdriven, i.e. buried under the drifted snow," compelled him to return to Dent; and soon after a summons

[1] *Preface* to Salter's *Catalogue*, p. xxiv. To Miss Sedgwick, 3 August, 1843.

from Dr Whewell hurried him back to Cambridge "with the speed of a rocket[1]." What happened when he got there shall be told in his own words. 1843. Æt. 58.

THE QUEEN'S VISIT TO CAMBRIDGE[2].

Well—the hurly-burly is all done! and after a double dose of sleep, I am coaxing the morning air to play on my face through an open window looking into our Great Court. Yesterday the place was glittering with all the splendour of a royal pageant, and every breathing thing seemed to be joining in acclamations. To-day, a glorious morning sun seems to be shining on a dead world, and everything about me is silent and motionless as the grave. I got so far, and halted from excess of sentiment. Again I looked out of the window, and what do you think I saw? Two dirty bedmakers hobbling to the fountain, and drawing water from it; one undergraduate skipping over the great grass-plot to his Tutor's room; and five pigeons pecking bread-crumbs under my chamber-windows. It is plain therefore that all the world is not dead. What a pity that I am interrupted. In half an hour the Dean of Ely is coming, and half an hour afterwards I am going with the said Dean to Ely.

Saturday evening. At Ely my letter made no progress, for the Dean had a Cambridge party, and after tea I was so tired that I had scarcely strength to prop my eyelids.

The news of the Royal visit only reached me at Dent last Friday week; and what do you think was my first step on hearing this joyful news? Why I wrote forthwith to my tailor to build me a pair of shorts and a silk cassock. Pantaloons, you know, are an abomination in the eyes of Kings and Queens. These important matters and many others of lighter moment being ended, I removed to Kirby Lonsdale on Saturday; did duty for a friend at that place on Sunday; posted to Lancaster in the evening in time for the night train; and so found my way to London on Monday morning. On Monday night I reached Cambridge, and on Tuesday, from sunrise to sunset, I was most actively employed, along with my sapient John, and three or four artificers and cunning men, in putting my Museum in royal order. I believe every member of the University was in as great a bustle as I was myself, but I must not speak for others. All Tuesday night I heard the wind howling, and the drops of rain pattering against my windows, and the early dawn broke through a dark and dismal sky. The sun, however, did his work to admiration, and before long sent all the clouds a packing to the

[1] To Miss Kate Malcolm, 30 October, 1843.

[2] This narrative was originally written in the form of letters to Miss Kate Stanley and Miss Kate Malcolm.

1843. Æt. 58. unseen regions of the earth. The day became glorious. The town was all alive, and the Great Court of Trinity College seemed the very centre of life and gladness. The Seniors met and deliberated; thinking of many things little worth thinking of, and forgetting many things about which they should have thought. Still there was the semblance of order in the midst of our disorder, and by one o'clock, all things, and all persons, seemed to have slid into their intended places. We knew nothing, except at second-hand, of what went on beyond the gates of Trinity College; but from all I can hear, the passage of the royal train from Royston to the triumphal arch at the south end of Cambridge was such as royal eyes have seldom seen before. For the last ten or twelve miles more than 3000 yeomanry, headed by the Lord Lieutenant of the County, joined the escort. On they all came at the rate of 15 miles an hour without check or accident—sometimes sweeping over hedge and ditch—sometimes rushing along the road in one dense and well-compacted mass; so that on reaching the Cambridge Barrier every man was a pillar of mud, and every horse a mass of living vapour. Among the conspicuous persons of this mass of yeomanry was a master-tailor, who by a miracle reached the barrier in safety, and was there seen bearing a bright red flag high above his head. It was made of red cloth destined for the nether-garments of a livery-servant, but by a strange accident elevated to this high honour. 'Tis now said that this man of shears had married a prudent wife, who ordered his journeymen to stitch him to the saddle before he started. And by this deed of prudent forethought he became one of the miracles of the day. (I beg your pardon, my dear, for writing this nonsense.) The procession from Royston was so joyous, that I declare I would have foregone half the glories of the Royal visit to have been one of the party.

By one o'clock the members of the University were marshalled in our Great Court, to the number of more than 2000, in silent and solemn order. My windows commanded an excellent view, and were filled with ladies. At length, about two o'clock, the sound of distant voices, and the clattering of bells, produced a slight undulating sympathetic movement in our ranks, and before long the Royal standard was seen to rise slowly and majestically over the great gateway. A few seconds more and the gates flew open; and down rushed the Guard followed by the Royal carriages. For a moment all was as silent as death; each man was drawing in his breath that he might with more energy send forth a shout of gratulation. I never heard such a shout before, reverberated as it was from every corner of our noble court. The most striking order was still preserved, and the Royal carriage advanced to the centre of the court, where the Master and Seniors were met to do homage, and present to their Sovereign the College keys. You never saw such an ample bunch of keys—large, ponderous, and rusty—and strapped together by an old greasy bit of leather—thick enough to have bound the limbs of unshaven Samson, and looking as if it had been cut from the

flank of a rhinoceros. Her Majesty contemplated this phenomenon with eyes of wonder, and then gently waving her Royal hand signified thereby her will that the ponderous bunch should be restored to the keeping of the Bursar. On the carriage moved towards our Lodge door—order was at an end—the whole University moved like a great wave, and threatened some dire confusion; but the front rank halted at a respectful distance, so firmly that no act of disorder was committed. The very tumult, and sudden condensation of the Academic mass, only added to the heartiness and joyousness of the greeting. Alas! how slowly I get on with my description. The Queen is not yet within our Lodge and I have almost done my paper. But I will not conclude till I have told you of the Address in Hall. 1843. Æt. 58.

While the Queen was refreshing the inner woman, and preparing her dress, we again took our ranks, and I do think we made a most goodly procession. The College Hall had been cleared of tables, and a throne erected in the centre of the dais. This was therefore to be the Presence Chamber, where the Addresses were to be presented to the Queen and Prince Albert. No room could be better for the purpose. It was full of historical associations, amply able to contain the whole University, and had a private entrance from the Lodge for the Queen. But there was a difficulty. The entrance was narrow, and the members of the University (not wearing their eyes in that part of their persons where Argus is said to have carried a portion of his eye-establishment), are singularly clumsy in all retrograde movements. Now if the Queen were once on her throne, it would be absolutely impossible for her to stir, after the Address, while a single soul remained in Hall; and supposing that we had once backed out, we must again marshal and make our second entry for the Address to the Prince. But it was a thousand to one against our ever backing out at all, especially while three or four hundred undergraduates were pressing behind to get a sight of Her Majesty. The odds were that we should come to a dead-lock, and be converted into one melancholy unwholesome mass of Academic jam. To avoid this misery the Queen condescended to receive our Address while standing, and to remain while the second Address was presented to the Prince. Thus we avoided the misery of a double retreat. Nor was this all. While we were moving away, and undergoing a curious retrograde compression, the Queen turned round, took the arm of the Prince, and walked out of Hall. We, like dutiful subjects, followed her example, faced about, and so escaped as best we could. These are small points, badly noticed in the journals; but great events are often marked by small circumstances.

At the appointed signal, the head of the procession entered the College Hall. My place, as one of the Professors, was in the second rank, behind the circle made up by the Noblemen, Heads of Colleges, and Doctors. But I saw the Queen as well as I see you during my visits (always formal and after long intervals) to the

1843. Æt. 58. Palace Library. She seemed in a slight flutter, and her eye rolled from one object to another while the academic stream was flowing towards her. I do think the sight and the occasion were most novel and imposing. Long before the tail of the procession was uncoiled from the great Court, the features of the Queen had put on an expression of repose, and she went through her part of the pageant with great sweetness and dignity. The Prince was looking well and happy. He has, you know, a noble figure, and he seemed well-fitted for his place beside the Queen. Far better than all this, it is plain that the royal pair love one another. They went together to every place she wished to see, and when she required some moments of rest he started on some expedition of his own, so that he lost not one moment from his entrance at our gates till the hour of his departure. As a proof of this I may tell you, that while the Queen was putting on her travelling dress just before she left us, he started on foot privately with our Master, and went on to the top of King's College Chapel to have a parting bird's-eye view from its battlements. In short, everything went on brightly and gloriously from first to last, and the Queen and Prince have carried off all hearts with them from the highest to the lowest. Before the Queen left us she told the Master more than once that the kindness of our reception delighted her. And what glorious weather! the more delightful after the gloom and wet of the previous day.

As soon as we were out of Hall, each man who had a ticket of admission, ran as best he could to King's Chapel. I had a place in the Choir, and I believe I only speak truth when I say that there was not anyone present who was not touched by the solemnity of the Service. Boisterous excitement cannot have a lasting place in the mind of man, and the passage from such a state to a sentiment of devotion, or something having the semblance of devotion, is not unnatural. But alas! such impressions often fade away as soon as the external cause is withdrawn; and whether any lasting good was produced amongst us, by the chanting of the prayers of our church, and the solemn swell of the organ in this glorious temple of the living God, can only be known to Him who looketh into the secrets of the heart.

From our childhood we are I think led to fancy that a Royal procession must have a slow and solemn movement. Not so, however, with our little Queen. Her movements are so rapid that her lady-followers are sorely put to it, and are forced to urge their muscles into a somewhat ungraceful activity, that they may keep up with their Royal Mistress. The Queen passed down the choir after service at her usual rapid pace, but just as she was descending to the ante-chapel she seemed to recollect herself, halted and turned round, and for some time stood, leaning on the arm of the Prince, and gazing at the choir and the painted lights of the east window. She then wheeled round, and again started at her rapid rate of movement, hurried to the great western door, and entered her carriage. If you had read Newton's Optics, I should remind you

of his theory of the movements of Light; and tell you that the Queen's movements, like those of a sunbeam, have "fits of easy transmission;" but I fear the figure would be lost upon you—so let that pass. 1843. Æt. 58.

After reaching our College, the plan was that the Queen should visit our Library, and, as it was getting dark, a line of torches was in readiness. But she began to feel some fatigue (no wonder), and resolved instead to see our Chapel and Newton's statue, and so to finish the labours of the day. In an instant the red carpet was unrolled from the Hall steps and trailed from the Lodge door towards the steps of the Chapel. But alas! it was too short to serve its purpose; and while the Master and Seniors were conducting her across the Court, there was, for about half a second, a horrible conviction that the Royal footsteps would be brought in most unseemly contact with the dusty pavement. But our undergraduates, who lined both sides of the path, saved our credit by a Sir Walter Raleigh movement. They simultaneously pulled off their gowns, and spread them two or three deep under the royal footsteps. We had a splendid Levee in the evening.

After the pageant of Wednesday was over, I am told that the Queen retired to rest, and slept soundly in the state-bed. If you only saw the cover of the bed you would understand what I say, and believe anything which may be told you about the soundness of the Royal sleep. The outer cover was once a praying-carpet of a great Mandarin, and was snatched from the fingers of his wife at the storming of Ningpo, and brought to England for the solemnity of the Royal visit. It was of bright scarlet, and adorned with golden dragons. Their claws were symbolical of power, and their wings of swiftness, and their horizontal position on the bed shewed the suspension of all the terrors of the Royal will during the time of sleep.

The sun rose brightly on Thursday morning. The Astronomer Royal came to my room very early. He had made an observation on the stars, and found that they continued most propitious. So we sat down well-contented, and ate a loyal breakfast. This important business was not quite done, when there was heard a rap at my door, followed by a formidable note from our Master, telling me of an intended Royal visit to the Woodwardian den of wild beasts, immediately after Prince Albert's degree in the Senate House, and enjoining me to clear a passage by a side-entrance through the old Divinity Schools. For it was thought inexpedient that the Royal Party should descend by the Senate House Passage, and enter on the side of Clare Hall by the front door. This threw me off my balance. For since the building of the New Library this place of ancient theological disputations has been converted into a kind of lumber-room, and was filled, from end to end, with every kind of unclean thing You would have laughed to see this dark and dismal chamber, just lighted enough to show its horrors. Mops, slop-pails, chimney-pots, ladders, broken benches, rejected broken cabinets from

1843. Æt. 58. the Library, two long ladders, and an old rusty scythe, were the things that met the eye, and everything was covered with half an inch of venerable dust. But there is at the end of the rooms a kind of gallery or gangway, by which the undergraduates last year used to find their way to my lecture-room. But alas! this gangway also was choke-full of every kind of rubbish and abomination. We did our best, and soon tumbled all impediments into the area below, producing a cloud as thick as that which hung over the land of Egypt. Huge mats, which the week before had covered the floor of the Senate House, were at hand, and spread over the slop-pails and other unsightly things, and in a time incredibly short, as men move in vulgar days, a goodly red carpet was spread along the gangway, and thence down my lecture-room to the door of the Museum. But still there was a dreadful evil to encounter. What we had done, brought out such "a rank compound of villanous smells", that even my plebeian nose was sorely put to it. How then could Queens and Princes bear it? So I went to a chemist's shop, and procured certain bottles of sweet odours, and sprinkled them cunningly where most wanted. And art being now exhausted, the rest was left to nature. Inside the Museum all was previously in order. Inside the entrance-door from the gangway was a huge picture of the *Megatherium*, under which the Queen must pass to the Museum, and at that place I was to receive Her Majesty. So I dusted my outer garments, and ran to the Senate House. And I was just in time to see the Prince take his degree, and to join in the acclamations. That ended, I ran back to the feet of the *Megatherium;* and before long, the Queen left the Senate House, and began her progress. Where carpets were wanting, the gowns of the undergraduates supplied their place, and, in a few minutes, the Royal Party entered the mysterious gangway above described. They halted, I half thought in the spirit of mischief, to contemplate the furniture of the Schools, and the Vice-Chancellor (Whewell) pointed out the *beauties* of the dirty spot, where Queen Bess had sat 250 years before when she presided at the Divinity Act[1]. A few steps more brought them under the feet of the *Megatherium*, which rose in the air spontaneously and allowed the Queen and Prince Albert to pass under, followed by the attendants and leading persons of the University. I bowed as low as my anatomy would let me, and the Queen and Prince bowed again most graciously; and so began Act I. The Queen seemed happy and well-pleased, and was mightily taken with one or two of my monsters, especially with the *Plesiosaurus* and gigantic stag. The subject was new to her, but the Prince evidently had a good general knowledge of the old world; and not only asked good questions, and listened with great courtesy to all I had to say, but in one or two instances helped me out by pointing to the rare things in my collection,

[1] This is a mistake. When Queen Elizabeth visited the University in 1564 the Disputations in Divinity were held in Great St Mary's Church. Cooper's *Annals*, ii. 194.

especially in that part of it which contains the German fossils. I thought myself very fortunate in being able to exhibit the finest collection of German fossils to be seen in England. They fairly went round the Museum, and had they not been so greatly pressed for time, would, I believe, most willingly have remained much longer; for neither of them seemed in a hurry, and I think the Queen was quite happy to hear her husband talk about a novel subject with so much knowledge and spirit. He called her back once to look at a fine impression of a dragon-fly which I have in the Solenhofen slate. Having glanced at the long succession of our fossils from the youngest to the oldest, the party again moved into the lecture-room. The Queen was again mightily taken with the long neck of the *Plesiosaurus*. Under it was a fine head of an *Icthyosaurus*, which I had been just unpacking. I did not know anything about it, as I had myself never seen its face before, for it arrived in my absence. The Queen asked what it was. I told her as plainly as I could. She then asked whence it came, and what do you think I said? That I did not know the exact place, but I believed it came as a delegate from the monsters of the lower world to greet Her Majesty on her arrival at the University. I did not repeat this, till I found that I had been overheard, and that my impertinence had been talked of among my Cambridge friends. All was, however, taken in good part, and soon afterwards the Royal Party again approached the mysterious gangway. I bowed low, the Prince and Queen bowed, the *Megatherium* packed up his legs close under the abdominal regions of his august body, the Royal Pageant passed under, and was soon out of my sight, and welcomed by the cheers of the multitudes before the Library. You now know all I can tell you about this part of the Royal Visit, and I will add that I went through every kind of backward movement to the admiration of all beholders, only having once trodden on the hinder part of my cassock, and never once having fallen during my retrogradations before the face of the Queen. In short had I been a King Crab I could not have walked backwards much better....

1843. Æt. 58.

When I reached Cambridge from the North, I immediately called on the Master, and offered him the use of my room that opens on the turret stair-case, and so communicates directly with the State Apartments of the Lodge. He accepted my offer with joy, and next morning early, I saw a bed put up in this room for the Lord Chamberlain, after which the door of communication was closed on the side leading to my other rooms. Had I known what took place afterwards I should certainly have taken a peep through the key hole. But I remained in ignorance of the honour my dining-room had come to, and only heard the news after the Queen's departure. No sooner had Her Majesty arrived than all the attendant ladies were shewn to their respective quarters. The two who were to dress the Queen, and take care of the royal wardrobe, cried out against the destined apartment, as infinitely too small to contain them and a tithe only of the Queen's petticoats. Necessity has no law, so Monsieur

1843. Æt. 58. le Grand Chambellan was bundled out head and shoulders, and the two ladies prepared all the decorations for the royal person in my dining-room. My walls, floor, chairs, and tables were covered with the gorgeous and costly trappings of royalty. When I again entered my dining-room last Friday week the very pictures on the walls were still nodding with astonishment, and even the old grave-looking Turkey carpet was in a state of most unusual excitement. I could not tell what was the matter with all my furniture, but I called on Mrs Whewell, and she soon explained this wonder.

Here I ought to end my private history. Every thing has now returned to its old place, and things in general have taken to their former courses. I am sitting in solitude, among ill-arranged papers, sometimes listening to the clock, at other times turning my ear to the melancholy murmuring of my dirty tea kettle.

The next letter completes our account of the year 1843.

To Miss Kate Malcolm.

NORWICH, *January 6th*, 1844.

My dear Kate,

As soon as the sun rises (for I am now writing by very early candle-light) will begin the last day of Christmas—a day of merry faces, clapping hands, and twelfth cakes, and I know not what besides—but these things are to me almost matters of memory; for I have been a bad economist of my happiness—I am withering on the ground without fruit or blossom; and am not permitted to live over again in the joys of the young who are near and dear to me. I must not, however, grumble above measure; for am I not beginning the day (while the sun has still two hours of hard work in trailing his limbs through the mists of morning before he can get his head above the dead level of Norfolk) in writing to a kind young friend who has sent me a large packet of good wishes, and has told me that she is willing to bear with me?

The last time I wrote to you was, if I remember right, very soon after the Queen's visit. The remaining part of the term, till I came hither at the end of November, was taken up in writing two geological papers for the London Society. At that time, I was in bad spirits, and not in good health.

The horrid death of an old and dear friend of mine[1] gave me such a shake, that I did not recover from it till two or three weeks after I came to this place. While I was in Cambridge his image was, almost day and night, before my eyes. He was a man of great reading and extraordinary conversational powers; the delight (and perhaps alas! the victim) of society. He had a tender conscience, and was not satisfied with the retrospect of his own daily life, and at times he was liable to fits of terrific melancholy. I have seen him, often, in a state when he appeared not responsible for his actions. And then, all at once, his soul would emerge from the dark and dismal vapour that surrounded it, and he would blaze out in such a way that it required all one's nerves to endure his vivacity. I had known him more than thirty years. He was in the lowest sink of mental misery when I saw him at Cambridge, during the great festivity. He laid bare his whole heart to me. He had formed an attachment—not a prudent one as the world counts prudence; and I urged him to marry—believing in my heart that in so doing his mind and happiness might be saved. He went and acted on my advice; and then alas! sunk again into blank despair, and took away his own life. The wretchedness I felt for some weeks, ended in a fit of rheumatic gout—but, thank God, I am now nearly well —or rather I ought to say, I am quite well. 1844. Æt. 59.

My life is very uniform—I rise early (often between five and six) and do *all my work* in the mornings, often before anyone is stirring. You see by this, that I consider my letters to you as a part of my hard work! So you must make up your mind to read them over twice; otherwise you will

[1] The Rev. Charles Ingle. His death took place 13 November, 1843. Mr Romilly, who had known him through Sedgwick, notes in his *Diary*: "I have always considered poor Ingle as a most unfortunate and a most ill-used man. With talents of the highest order, with a mind stored with all the treasures of literature, with a most retentive memory, and wit only second to Sidney Smith's, he was the delight of society. The Archbishop of York and all the nobility of the neighbourhood vied with each other in making their houses attractive by having Ingle for their guest—but they suffered him to languish in poverty upon a miserable living of about £150 a year."

1844. Æt. 59. miss half their meaning. There is a great deal of mystical and symbolical meaning in my crooked characters you will overlook at first sight; and after making all this out you will begin to think my ugly, crooked-looking, letters quite charming. But of that by the way. At nine I meet my servants —quarter past, breakfast—at ten, morning service at the Cathedral—after service, odds and ends—callings and shoppings and I know not what—lunch at one—then a scamper on horse-back (when I have time) with my niece, who loves a horse as much as you used to do—and she now rides a lovely bay thoroughbred creature I have hired for her. So you see, among other temptations for next Residence, I can promise you a glorious movement over our Norfolk sands on the back of a charger. But to return to my journal. Cathedral service again at four—dinner at six: but our hours are very irregular, and we make Old Time our slave on this point—somewhat to the confusion of my old house-keeper, who has so long been the slave of Old Time, that she has learnt to like his fetters better than our freedom. We are rather given to dining out; and have many kind friends who would be greatly built up by seeing the Warfield[1] party.

A few days since I had a good Christmas party of children —blindman's buff and Hyde Hall romps over again; and a good smattering of grown-up children, who thought themselves young again during the sparkling of fireworks and the boisterous mirth of snap-dragon. We will try a measure of this kind when you come. There! my servant is stirring, and my man has brought me in my little white German dog. I offered you her brother, and you would not have him. If you only could see his beautiful sister now at my feet, you would sorely repent your refusal of my offer; but an old bachelor of my age has had his offers refused so often that he gets used to it, and bears it like a lump of frozen starch, and is none the worse for it. On Thursday evening I gave a two hours' lecture to the Society of Naturalists at this City. I

[1] An estate in Berkshire, bought by Sir John Malcolm in 1831.

think I had a class of nearly 300, and more than half the number were of the softer sex—at least they were the outer symbols of womankind—but whether their stockings were blue I know not from ocular proof. I think I have heard it said that a good woman might have her stockings as blue as you like, only she ought to have petticoats long enough to cover them. There are, however, one or two dragonesses of blues here who mightily affect *shorts*. I don't know with which set I must pack you, when you come to see me. The second set will I think suit you to a *t*. My niece responds to all your kind wishes, and longs for the promised visit of my Warfield friends. But I must now conclude. So a thousand kind wishes to you all. Ever, my dear Kate, affectionately yours,

1844. Æt. 59.

A. SEDGWICK.

CHAPTER II.

1844—1849.

INVITATION TO BRITISH ASSOCIATION. MEETING AT YORK. CONTROVERSY WITH DEAN COCKBURN (1844). ARTICLE IN *EDINBURGH REVIEW*. BRITISH ASSOCIATION AT CAMBRIDGE. ELECTED VICE-MASTER OF TRINITY COLLEGE. GEOLOGY IN LAKE LAND. QUARREL WITH DR WHEWELL (1845). GEOLOGY IN N. WALES (1846). LONG ILLNESS. PRINCE ALBERT ELECTED CHANCELLOR. SEDGWICK APPOINTED HIS SECRETARY. SIR HARRY SMITH AT WHITTLESEA. INSTALLATION OF THE PRINCE. VISIT TO OSBORNE (1847). GEOLOGY IN SCOTLAND. LECTURE AT IPSWICH (1848). JENNY LIND. TRIAL OF RUSH. ACCIDENT. BRITISH ASSOCIATION AT BIRMINGHAM. DEATH OF BISHOP STANLEY. BREAKS RIGHT ARM (1849).

THE year 1844 was barely two months old when Sedgwick heard of the death of one of his most intimate Cambridge friends, Mr D. F. Gregory. He was introduced to him at Edinburgh in 1834[1], when staying with Dr Alison, who had married one of his sisters. A close intimacy with the Alisons, and a frequent correspondence, resulted from that accidental meeting. "The happy week I spent with you," he wrote to Mrs Alison in 1844, "the way you made me one of

[1] See above, Vol. i. p. 431.

yourselves—the charming visit to the old patriarch at Woodville[1]—all these things are treasured in my memory, and bring delightful recollections." At that time Gregory was a clever undergraduate—he had entered Trinity College in 1833—fond of natural science, and with a special aptitude for mathematics. He was fifth wrangler in 1837—a place which, high as it was, was considered to be inferior to what he might have attained to, had his reading been less discursive; and in 1840 he was elected Fellow of Trinity College. He was a man of varied accomplishments, and great social gifts, which made him a welcome guest, not merely in Sedgwick's rooms, but in the general society of Cambridge. But his health, which had never been robust, gave way in 1842, and during the next two years he gradually faded out of life. The end came rather suddenly in February 1844. Sedgwick's letters to him—and there is evidence that he wrote frequently—have not been preserved; and it is only from allusions in his correspondence with others, and from Mrs Alison's letters, that we get glimpses of what was evidently a very real friendship. "I trust you believe," she writes, "that, as a part of Duncan's happy life at Cambridge, the feeling that he had your friendship was one of the things he prized most of all. I dared not attempt telling you (nor can I easily trust myself to write it) the sort of way in which he used to speak of you often, when—feeling relieved from suffering—he used to lie recalling and describing to us all that had given him pleasure in his College life. He not only admired, he loved you; and was *very* grateful (though not a person of many words), for your kindness to him. So are we all now[2]." Mr Gregory had always hoped

1844. Æt. 59.

[1] A villa near Colinton, four miles from Edinburgh, at the foot of the Pentland hills, bought by the two sons of the Rev. Archibald Alison, as a residence for their parents. Mr Alison, author of *The Principles of Taste*, and other works, died there, 17 May, 1839, æt. 82. *Autobiography of Sir A. Alison*, 2 vols. 8vo. Edinb. 1883, i. 291.

[2] From Mrs Alison, 1844. A short *Memoir* of Mr Gregory, by Robert Leslie Ellis, is prefixed to *The Mathematical Writings* of Duncan Farquharson Gregory, M.A. Edited by William Walton, M.A. 8vo. Camb. 1865.

1844. Æt. 59. to persuade his friend to sit for his portrait; and the details of the plan had been discussed between them in the June before he died. After his death Mrs Alison reminded Sedgwick of his promise; and to please her his portrait was drawn in crayons by Mr Samuel Lawrence.

On returning to Cambridge at the conclusion of his Norwich Residence a question concerning the British Association claimed Sedgwick's attention. The Council, in making arrangements for the annual meetings, had come to the conclusion that the towns most convenient for the purposes of the Association had been already visited, and that the time had come when it was desirable to revisit them, as nearly as possible in the original order. York had been chosen for the meeting of 1844; it remained to be seen whether Cambridge would be available for 1845, it being understood that Oxford was unwilling. This proposal encountered strong opposition from Whewell. Sedgwick and Murchison both did all in their power to conciliate him, but in vain[1]. The following letters will explain what happened, without further introduction:

To Sir J. F. W. Herschel.

LONDON, *May 12th*, 1844.

My dear Herschel,

I promised some of my friends to write to you last Wednesday; but I was labouring under a fit of gout, which burrows among my nerves and makes me unfit for every duty of life. So I procrastinated and waited for a reprieve. I am now rather better; and hope I have sense enough left to make myself understood. Some weeks since we had, at Cambridge, a meeting to ascertain the feeling of the University on the question of receiving the British Association in 1845. I spoke on the occasion—said that the body had not yet run its course—that it was in full vitality—that it would be an honour to Cambridge

[1] Geikie's *Life of Murchison*, ii. pp. 22—25.

to receive it again—and that I trusted you might be induced to take the office of Commander-in-Chief, &c. &c. The meeting went off well. The present Vice-Chancellor[1], and the Vice-Chancellor for next year[2] (1845), were both favourable, and the Master of Christ's[3] attended, and is willing to take any office in which he can be of use. Two hands only (out of 60 or 70 present) were held up on the negative side[4]. Our Master (Whewell) spoke against the meeting, but bolted, and did not vote. I was advised not to write to you *then;* but to wait till the Grace of the Senate (granting the use of our public buildings to the Association) had passed. You know the constitution of our Caput, and that any one veto from that body would have been fatal, even though every other Member of the Senate had been favourable. But the Grace passed on Wednesday last: 24 or 25 *placets*, and four *non-placets* in the Upper House; in the Lower House no division. The glorious minority of four was composed of three Tutors of Trin. Coll.[5] and one old paralytic man who is frighted to death at the idea of a crowd. Whewell did not vote, and I doubt not he will in the end join us, and heartily, after having discharged the electrical accumulation from the negative pole. The time of meeting cannot be absolutely fixed till we meet at York; but by universal consent the month of June, I mean the latter part of it just before the Commencement, will be fixed on. Indeed no other time would suit us at Cambridge. To meet in term-time would be very inexpedient if not impossible; and after the Commencement I do not think you could induce our active men again to muster, after they had left College, and made their arrangements for the summer. Sometime before the Grace was proposed we had heard,

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[1] William Hodgson, D.D., Master of Peterhouse.

[2] Robert Phelps, D.D., Master of Sidney Sussex College.

[3] John Graham, D.D., Master of Christ's College 1830—49; Bishop of Chester, 1848.

[4] Mr Romilly records that the Rev. J. W. Blakesley, Fellow and Tutor of Trinity College, was the only person who voted on the negative side.

[5] For this act of subservience to the Master (as some regarded it) they were nicknamed "the three stars in the tail of the Great Bear."

1844. Æt. 59. through Murchison, that you had consented to be our Chieftain. This gave us new strength and spirits, and neutralized any chance of opposition from St John's. For they love you so well, and glory so much in your honours, that they would never think of opposing any philosophic movement of which you formed the President. So the matter stands. Let me have one single line from you—I shall be here all this week. Don't think the chair of state unworthy of you because I once sat on it. The young Society was then only crawling on all fours, and naturally clung to the earth. And, if an argillaceous impress was left by me on the bottom of the seat, surely twelve years must have dried it, and left time for roses and other sweet-smelling things to grow out of it. So you will have a throne of blossoms sending the sweetest odours to the sky. But the Society is now well-grown and vigorous. You will teach it to turn its face upwards and kiss the sky; and to rise on the wings of imagination far beyond even those star-clouds you watched so long from the other side of old mother earth's hooped petticoat. One good thing we shall have—the pleasure of seeing you, and I trust Lady Herschel and some of your asteroids, for a week amongst us. You will rub off some of our academic rust; and we shall profit a thousand ways, both in head and heart, by the grand reunion. How is your great work coming on? Is it soon to see the light? I was at Greenwich the other day, and saw fourteen calculators working at the arrears of the Observatory reductions! In another year Airy hopes to finish this enormous task. But you know all this a thousand times better than I can tell you. It is well that you, and Airy, and your brother craftsmen are held to the earth by silken cords, twined by the hands of your wives and children. But for this you would long since have risen sky-high by mental energy, and been dissipated by internal elasticity into expanded masses of luminous vapour. Here I must stop; for were my legs even as long as those of St Christopher, I could not see clearly, or write sensibly, about things so far above the earth.

Give my kind regards to Lady Herschel, and my love to your children. Ever, my dear Herschel, with most sincere and cordial (though alas! but ignorant) admiration of your vast labours, 1844. Æt. 59.

Most truly yours

A. SEDGWICK.

From Sir J. F. W. Herschel.

COLLINGWOOD, 15 *May*, 1844.

My dear Sedgwick,

Many thanks for your very friendly and encouraging letter—but I grieve to hear that you are such a sufferer in the flesh. Is it for this that hammer in hand, like a second Thor, you have gone about the world cracking the crowns of rebellious mountains, and reducing the very stocks and stones to order and obedience? I thought gout was for those who wore soft raiment, and pressed down-beds, and fared sumptuously daily, not for hard-working tough-fisted brawny fellows like you Geologists, who live on three feeds of flints a day, tempered with *quantum sufficit* of the Chaotic fluid, and who ignore all turtle but what they find potted up in antediluvian mud. However, be that as it may, if your lot be hard beyond that of all others of your craft, you are so much the more to be compassionated, and apart from all joking I am very sorry to hear that you are subject to the attacks of so dreadful an enemy.

I only hope I may make a quarter so efficient a chairman of the British Association. Indeed I am afraid I shall get on very indifferently. Whewell's opposition to the meeting seems after all to have been not a very relentless one. *Liberavit animum suum*—that was all—and standing in an influential position on two opposite sides of the question (as a man does when he straddles across a ditch that separates two counties) his two halves instead of neutralising one another seem to have resolved on separate and independent activity. So, having opposed the meeting in the first instance in virtue of his membership of the Association—judging according to his own notions what was best for it—he will I presume as Master of Trinity give it a good shove forward when it comes to Cambridge. All I know is that I have a very cordial invitation from him to make Trinity Lodge my head-quarters during the meeting, which does not look like repudiation.

For my own part, if it be the wish of the Council of the Association that I should take the chair, I shall hold myself prepared to do my best; and as I know what very efficient supporters I shall have in yourself and Peacock (and I am quite sure Whewell too) etc. to say nothing of non-cantabs, I have little fear we shall have a good meeting.

Believe me, dear Sedgwick,

Yours very sincerely,

J. W. HERSCHEL.

1844. Æt. 59. It was notorious in the University, that what Sedgwick called "a wrestling match" between himself and the Master of Trinity, was about to take place; and the prospect of such a diversion attracted a large audience to the Woodwardian lecture-room on Tuesday, 26 March. The chair was taken by the Dean of Ely[1], as President-elect of the Association. Mr Hopkins[2] proposed, in a temperate and well-considered speech, that in case the British Association should decide to meet at Cambridge in 1845, a friendly reception should be given to it. This was seconded by Professor Cumming. Then Whewell rose. So far as the meagre report in *The Cambridge Chronicle* enables us to understand his drift, he took the view that the Association ought to disseminate light through the darkness of provincial England; that there were numerous large towns as yet unvisited; that if it visited the same towns in a perpetually recurring cycle it would become "an object of terror" on the ground of expense; and, finally, that it was a dangerous experiment to attempt to revive after so short an interval the enthusiasm which had distinguished Cambridge in 1833.

Sedgwick's reply to these cautious sentiments is said to have been most spirited and amusing; but, unfortunately, only fragments of it have survived. He opened fire with a direct attack, in some such words as these: "If the Master of Trinity will not lend us his active cooperation and sympathy, let him at least not oppose the generous wishes of the University—let him go home and shut himself up in his Lodge and receive none of those whom it ought to be an honour and a pleasure to entertain:" and then, suddenly, feeling that he had gone rather too far, he stopped, and added: "But, while I am thus strongly expressing my views upon the point before us, I should scorn the man who would insinuate that any difference of opinion upon a question like this could interrupt the life-long friendship that has subsisted between the Master and myself." Then he went through the reasons which influenced

[1] The Rev. G. Peacock, D.D., had been appointed Dean of Ely in 1839.

[2] William Hopkins, M.A. Peterhouse, the well-known mathematical tutor.

the Council of the Association in choosing Cambridge for their place of meeting in 1845; that the most suitable places had been visited already; that there was some valid objection to every one of the towns suggested by Dr Whewell; that therefore the former places of meeting must now be revisited unless the Association cease to meet, or be so altered as to lose its original character. "If Cambridge, coldhearted and cowardly, decline to receive the Association, and if other towns of the original cycle, following this example, should also refuse, then the Association dies; but I should indeed feel a chill at heart if I thought that the torch of science which has burnt so brightly, and which has been passed from hand to hand, warming and illuminating us, should only be handed on when by us its light has been extinguished....This question you are now called on to decide, namely, whether you will put your extinguisher on the zeal of those men amongst you who are willing to assist in what they firmly believe to be a great public good, and prevent them from exerting themselves for the benefit of science. This is the point of the whole matter; this, I repeat, is the question which now awaits your decision." Having disposed of this side of the subject, he adopted and supported with equal eloquence the opposite view. "If we refused to receive it, did we think that the British Association would suffer from such treatment? No! our conduct would recoil upon ourselves. We should be disgraced in the judgements of all right-judging persons, while the Association would soar &c., &c." His arguments might have been illogical, but the show of hands at the end shewed that he had understood his audience. "My reply," he wrote to Murchison, "followed Whewell step by step, and argument by argument; and I do think, judging by the votes, that I had the best of it. I did not flinch a point, kept my temper, and had several good hearty laughs out of the audience, so that even our Master relaxed and laughed among the rest, and left the room in apparent good temper[1]." 1844. Æt. 59.

[1] This account has been derived from *The Cambridge Chronicle*, 30 March,

1844. Æt. 59. At the end of May Sedgwick, accompanied by his niece Isabella and her brother, left England for Germany, to try what effect the waters of Wisbaden would have on his gout. The cure ended, he took a short tour in the Black Forest, and did not reach home until the middle of September, when it was time to attend the meeting of the British Association at York. He had no paper to read; his duties as Vice-President of the Geological Section were almost nominal; and he probably looked forward to an agreeable holiday in the society of Professor Phillips, Archbishop Harcourt, and other friends. As events turned out, he was called upon to occupy a position of unexpected prominence.

The Very Reverend William Cockburn, D.D. was at that time Dean of York. He was a Cambridge man of some distinction, having been twelfth wrangler in 1795, Fellow of St John's College, and Christian Advocate from 1803 to 1810. It might therefore have been expected that his Cambridge training would have taught him at least the rudiments of scientific methods; and that he would not have propounded crude theories upon a subject in which he was a mere beginner. For some years, however, he had become possessed with the notion that the cause of biblical truth was being emperilled by the theories of geologists in general, and of Dr Buckland in particular; and in 1838 he had testified against the Association by warning the Duke of Northumberland, then President, against what he called, *The Dangers of Peripatetic Philosophy*[1]. The York meeting therefore was a golden opportunity. Under the shadow of his own Cathedral he would confute his special opponent, and in his person discredit the whole body of assembled philosophers. He obtained leave to read in the Geological Section a paper entitled: *Critical Remarks on certain Passages in Dr Buck-*

1844; Mr Romilly's *Diary;* and the article *Adam Sedgwick* by the Lord Bishop of Carlisle, in *Macmillan's Magazine* for April, 1880.

[1] In this year he published: *A Letter to Professor Buckland, concerning the Origin of the World*, 8vo. Lond.; and *A Remonstrance, addressed to his Grace the Duke of Northumberland, upon the Dangers of Peripatetic Philosophy.* 8vo. Lond.

land's Bridgewater Treatise. A writer in Chambers's *Edinburgh Journal*[1] has left a description of the scene: 1844. Æt. 59.

The whimsicality of the attempt would have caused the Section to reject such a paper from any man of inferior note; but the local importance of its author, and dread of being accused of fear to meet such an opponent, determined them to give it a hearing. When this was known on the morning of Friday, a vast multitude flocked to the section, and thus gave additional importance to what was at best a kind of indecent oddity in the course of the proceedings. In due time the Dean, a tall and venerable figure, with an air of imperturbable composure, walked through the crowd, and took his place by invitation beside the President on the platform. His paper, which he read with a firm voice, was briefly and elegantly expressed, but otherwise was a most extraordinary production. To the mind of the writer, the whole of those collections of facts and illustrations which the geologists have made during forty years, seemed to have existed in vain. He first presented a set of objections against the view of the earth's early history given by Dr Buckland in his *Bridgewater Treatise;* and then proceeded to develop a theory of his own, accounting for all the phenomena in a manner designed to reduce them within a very brief space of time. The theory was a wilder dream than any of Burnet's or Woodward's, and such as could not be listened to with gravity by any one acquainted with the science; yet, amidst the laughter which hailed it, the author went on in an unfaltering manner to the end, when he quietly sat down beside Mr Warburton.[2]

The Dean attempted to explain the Mosaic cosmogony literally. Marine volcanoes, he thought, together with the supernatural rain of the Flood, had deposited all the strata, as we see them now, in the course of a few days; and the embedded fossils represent the remains of animals that were all alive when the convulsion began, and were so obliging as to die in the definite and regular order in which their shells and bones are now deposited.

The task of replying to this attack was confided to Sedgwick, who, the same writer tells us, "enchained the audience for an hour and a half, alternately charming them by his vast learning, and throwing them off their gravity by the most amusing and grotesque illustrations." He began by pointing out at some length that the proper business of the

[1] Chambers's *Edinburgh Journal*, New Series, ii. 322.

[2] Harry Warburton, M.P., F.R.S. President of the Geological Section.

1844. Æt. 59. Association was to collect facts, not to propound theories, and that such a discussion as the present would never, he hoped, be permitted again. Then he was at pains to follow the Dean through his "irrational guesses and absurd hypotheses," as though he were dealing with an opponent worthy of his steel. His speech, as reported in *The Athenæum*, is severe; but we have been told by one who was present that as delivered it was remarkable for a scornful bitterness beyond the power of any reporter to reproduce.

A castigation so thorough would have reduced most antagonists to silence. Not so Dean Cockburn. He demanded a second discussion; and, when this was refused, he published his paper with a new title: *The Bible defended against the British Association.* Moreover for some time he continued to harass Sedgwick with long letters, in which he not only questioned him on particular points, but entreated him to formulate a precise theory of creation. These letters the Dean published as soon as they were written; but Sedgwick wisely declined to allow him to pursue a similar course with his answers.

At the present time even the most devout and the most orthodox have abandoned those unprofitable attempts to give a literal interpretation to the figurative language of Scripture which were indulged in fifty years ago. Hence it is almost impossible to realise the alarm excited by the earlier results of geological research; and the hysterical denunciations of science and its professors which were then so common can hardly be read without a smile. Ignorant and foolish as Dean Cockburn was, it is easy to see, from the number of editions of his pamphlet published in the course of a few weeks,[1] that he represented the feelings of a large majority of his countrymen. At the meeting of the British Association Sedgwick wisely contented himself with saying

[1] A fifth edition of *The Bible defended* etc. was published in 1845. To this was appended "a correspondence between the Dean and some members of the Association," including the first two letters to Sedgwick.

that "truth could not be opposed to itself, and that the highest discoveries of science would ever be found in perfect harmony and accordance with the language and meaning of revelation;" but it will be interesting to know what his views on the difficult subject of the Mosaic cosmogony really were. Soon afterwards he wrote a long letter to a friend, who felt doubts and difficulties, from which some passages may be extracted. 1844. Æt. 59.

"The two first verses [of the first chapter of Genesis], are an exordium, declaring God the Creator of all material things; and I believe it means, out of nothing, at a period so immeasurably removed from man as to be utterly out of the reach of his conception. After the first verse there is a pause of vast and unknown length, and here I would place the periods of our old geological formations, not revealed because out of the scope of revelation. We are then told that 'the earth was without form and void, and darkness was upon the face of the deep.' Who can dare to say that he comprehends these short and mysterious words? They may perhaps describe the condition of the earth after one of the many catastrophes by which its former structure had been broken up, and of which we can, on its present surface, find so many traces. But these are speculations. I value them not, for they are, perhaps, worse than nothing. After the word 'deep' there is a pause. The work of actual present creation now begins. The spirit of God broods over the dead matter of the world, and in six figurative days brings it into its perfect fashion, and fills it with living beings.

"Why may He not have manifested His power while His spirit moved on the waters in ten thousand creative acts never revealed (because unconnected with the moral destinies of man), yet recorded in clear characters on stony tablets to be read and admired in after-times by the descendants of the last created being, to whom faculties were given whereby they might comprehend the laws of the material world, and rise

1845. Æt. 60. from them to some faint, glimmering perception of their Creator's glory?"

In November of this year Sedgwick gave a lecture at Ely on the geological phenomena displayed in the cuttings for the Great Eastern Railway. This was succeeded by the usual winter residence at Norwich.

To Miss Isabella Sedgwick.

CAMBRIDGE, *March 1st*, 1845.

How time seems to fly! Two months of the new year gone, and in three weeks more I shall complete my sixtieth year! I ought, day and night, to thank God for the blessings I enjoy, and have enjoyed, not indeed uniform and uninterrupted, but chequered with some pain and sickness and such afflictions as must sometimes meet us on the way if we are permitted to live to sixty—within ten years, you know, of the scripture limit of human life. My domestic griefs have, in comparison of what are often laid on my neighbours, been few indeed, and slight; and none of them, thank God, without the comfort and consolation of Christian hope. Oh! that I could learn a lesson of patience during the long lingering attacks of rheumatic gout which fasten on me every spring! This most worrying malady is already working among my extremities, and undermining my spirits and temper. A bad cold I had at Norwich will not quit its hold, and I move out with my face muffled in a respirator. I lecture six days a week in a voice which would sound charmingly in a frog-chorus. Spite of these little ills I am stronger, both in mind and body, than most men of my age, and indeed I *ought* to be thankful!...

I have now given up all thoughts of marriage; and it is high time, is it not? But, do you know, it is a very hard thing for a man to give up, even at my own time of life....

At the beginning of the Easter vacation Sedgwick read to the Geological Society a paper, *On the comparative classification of the Fossiliferous Strata of North Wales with the*

corresponding deposits of Cumberland, Westmoreland, and Lancashire, the object of which was to bring the successive groups of the Cumbrian mountains into comparison with the three primary divisions of the whole Welsh series, as laid down in his paper read to the Society in November, 1843. 1845. Æt. 60.

We have now reached one of the most noteworthy of Sedgwick's works—his criticism of the once famous *Vestiges of the Natural History of Creation*. At the present day, if the book be not entirely forgotten, it is alluded to with languid interest as in some sort a precursor of *The Origin of Species;* but when it first appeared, in the autumn of 1844, it caused a prodigious sensation, and achieved a popularity which to us is almost incomprehensible. It must be remembered, however, that scientific treatises adapted to non-scientific readers were at that time almost unknown, and the *Vestiges*, with its agreeable style and reverential tone, was probably regarded by many as a pious compendium of all that had been most recently ascertained respecting the world and its inhabitants. Moreover it was published anonymously, so that interest was enhanced by curiosity. The wildest suggestions were indulged in; even the sex of the writer was disputed; and Sedgwick, as we shall see presently, was for a time convinced that he had to deal with a lady. It is now known that the author was Mr Robert Chambers[1].

His avowed object was to supersede the received conception of creation as a series of special and arbitrary acts by a theory which should establish for the production of organic life some such law as had been already established for the celestial bodies. A review of the several geological formations indicated a gradual progress; speaking generally, lower forms

[1] An interesting account of the way in which the *Vestiges* came to be written, the number of editions, etc. is to be found in the *Preface* to the 12th edition, 1884, by Mr Alex. Ireland, one of the four original depositaries of the secret.

1845. Æt. 60. had preceded higher. Further, it was argued, an obvious gradation may be observed among existing forms of animal life, and, at the same time, an obvious unity of structure; in other words, all animated things are parts of one system, the creation of which must have depended upon one law or decree of the Almighty. From these considerations it was but a step to the hypothesis "that the simplest and most primitive type gave birth to the type next above it, that this again produced the next higher, and so on to the very highest, the stages in advance being in all cases very small, namely, from one species only to another." To fortify this conception the author ranged "from heaven to earth and earth to heaven;" the nebular hypothesis, the law of gravitation, electricity, chemistry, botany, metaphysics, language, phrenology, psychology, zoology and its classificatory systems, embryology, physiology, comparative anatomy, were all laid under contribution, and made to supply facts or analogies. The explorer of a field so vast—if he was to effect a result of any permanent value—should have been endowed with a mind trained by scientific research. Mr Chambers, on the contrary, was a man of letters, whose attention had been accidentally directed to a scientific problem. As might have been expected, he made grievous, not to say ridiculous, mistakes; and though the general public bought, read, and applauded, the essay was unanimously condemned by men of science, and held up to scorn and ridicule in the best critical journals.

The tone of Sedgwick's mind was eminently teleological, as his *Discourse on the Studies of the University* has shewn. Any theory calculated to weaken the argument from design was certain to rouse his indignation; and the mistakes which disfigured the *Vestiges* were not likely to soften him in the author's favour. Had the book, however, been ten times as ignorant and inaccurate as it was, it would still be impossible to defend the spirit in which he thought and wrote about it.

To Charles Lyell, Esq. 1845.

CAMBRIDGE, *April* 9, 1845. Æt. 60.

...While in Residence at Norwich I had a note from Macvey Napier[1] asking me for a Review of the *Vestiges of Creation.* I dared not undertake the task; as I had a course of lectures in *certain,* and a fit of the gout in *probable,* reversion. I am now truly sorry for my cowardice; for the gout has treated me with more than usual kindness, and my lectures have been finished for three weeks. To write a good Review one ought to know a little of the subject, and one ought either heartily to love, or heartily to hate, the author's sentiments. I do from my soul abhor the sentiments, and I believe I could have crushed the book by proving it base, vulgar in spirit, (not so in dress and manner, and there is the mischief of it, but I would have strived to strip off the outer covering and show its inner deformity and foulness,) false, shallow, worthless, and, with the garb of philosophy, starting from principles which are at variance with all sober inductive truth. The sober facts of geology shuffled, so as to play a rogue's game; phrenology (that sinkhole of human folly and prating coxcombry); spontaneous generation; transmutation of species; and I know not what; all to be swallowed, without tasting or trying, like so much horse-physic!! Gross credulity and rank infidelity joined in unlawful marriage, and breeding a deformed progeny of unnatural conclusions!...What can we think too ill of the silly philosophy of one who compares the frosted vapour on our windows to the action of vegetable life? or the electric brush to the organic energies which bring to maturity a forest tree[2]?...who breeds mites by electricity[3], and

[1] At that time editor of *The Edinburgh Review.*

[2] *Vestiges,* Ed. iii. pp. 169—171.

[3] The author of the *Vestiges* (p. 188) had cited, as an instance of the intervention of man "in preparing the association of conditions under which the creative laws work," the production of the *Acarus crossii* in the laboratory of Mr Crosse (for whom see above, Vol. i. p. 461). It was believed for some time that a new animal had been brought into being during the progress of a galvanic experiment, but further investigation determined that it was only a well-known species, *Acarus horridus.*

1845. Æt. 60. hatches rats out of a goose's egg[1]? And what shall we say to his intellectual capacities, when he confounds (as phenomena of the same order) the glorious conclusions of abstract language, and the inductions of pure intellect,...with the jabbering of apes, and the cawing of rooks? And what shall we say to his morality and his conscience, when he tells us he has 'destroyed all distinction between moral and physical[2];' when he makes sin a mere organic misfortune[3]?...If the book be true, the labours of sober induction are in vain; religion is a lie; human law is a mass of folly, and a base injustice; morality is moonshine; our labours for the black people of Africa were works of madmen; and man and woman are only better beasts! When I read some pages of the foul book, it brought Swift's satire to my mind, and filled me with such inexpressible disgust that I threw [it] down...and cried out to myself: 'Give me an ounce of civet, good apothecary, to sweeten my imagination.'

[1] Having cited instances of "failure of the power of development," e.g. a mammalian heart imperfectly organized, the author proceeds: "Here we have apparently a realization of the converse of those conditions which carry on species to species, so far, at least, as one organ is concerned....How easy it is to suppose an access of favourable conditions sufficient to reverse the phenomenon, and make a fish mother develop a reptile heart, or a reptile mother develop a mammal one. It is no great boldness to surmise that a super-adequacy in the measure of this under-adequacy...would suffice in a goose to give its progeny the body of a rat, and produce the ornithorhynchus, or might give the progeny of an ornithorhynchus the mouth and feet of a true rodent, and thus complete at two stages the passage from the aves to the mammalia" (p. 224).

[2] Sedgwick does not state his adversary's argument fairly. The author is arguing (p. 309) that the "ordinary mental manifestations" of man are "simple phenomena resulting from organization, those of the lower animals being phenomena absolutely the same in character, though developed within narrower limits;" and further (p. 314), that as statistics exhibit a law in morals as well as in physics, "Man is now seen to be an enigma only as an individual; in the mass he is a mathematical problem. It is hardly necessary to say, much less to argue, that mental action, being proved to be under law, passes at once into the category of natural things. Its old metaphysical character vanishes in a moment, and the distinction usually taken between physical and moral is annulled."

[3] "When order is generally triumphant, and reason allowed sway, men begin to see the true case of criminals, namely, that while one large department are victims of erroneous social conditions, another are brought to error by tendencies which they are only unfortunate in having inherited from nature" (p. 341).

"I cannot but think the work is from a woman's pen, it is so well dressed, and so graceful in its externals. I do not think the 'beast man' could have done this part so well. Again, the reading, though extensive, is very shallow; and the author perpetually shoots ahead of his facts, and leaps to a conclusion, as if the toilsome way up the hill of Truth were to be passed over with the light skip of an opera-dancer. This mistake was woman's from the first. She longed for the fruit of the tree of knowledge, and she must pluck it, right or wrong. In all that belongs to tact and feeling I would trust her before a thousand breeches-wearing monkeys; but petticoats are not fitted for the steps of a ladder. And 'tis only by ladder-steps we are allowed to climb to the high platforms of natural truth. Hence most women have by nature a distaste for the dull realities of physical truth, and above all for the labour-pains by which they are produced. When they step beyond their own glorious province, where high sentiment, kind feeling, moral judgments most pure and true, and all the graces of imagination, flash from them like heaven's light, they mar their nature (of course there are some exceptions), and work mischief, or at best manufacture compounds of inconsistency. The mesmeric dreamer, and economist in petticoats, is, I think, no exception to this remark. But, my dear President, I beg your pardon for this nonsense. Did the author of the *Vestiges* see it, he, (or she,) might perhaps think that I had been playing monkey-tricks on the corner of my breakfast-table, and proving my apeish origin..." 1845. Æt. 60.

To Professor Agassiz:

TRINITY COLLEGE, CAMBRIDGE,
April 10th 1845.

"The British Association is to meet here about the middle of June, and I trust that the occasion will again bring you to England, and give me the great happiness of entertaining you in Trinity College. Indeed, I wish very much to see you; for many years have now elapsed since I last had that pleasure.

1845. Æt. 60. May God long preserve your life, which has been spent in promoting the great ends of truth and knowledge! Your great work on fossil fishes is now before me, and I also possess the first number of your monograph upon the fishes of the Old Red Sandstone. I trust the new numbers will follow the first in rapid succession. I love now and then to find a resting-place; and your works always give me one. The opinions of Geoffroy St Hilaire and his dark school seem to be gaining some ground in England. I detest them, because I think them untrue. They shut out all argument from *design* and all notion of a Creative Providence, and in so doing they appear to me to deprive physiology of its life and strength, and language of its beauty and meaning. I am as much offended in taste by the turgid mystical bombast of Geoffroy, as I am disgusted by his cold and irrational materialism. When men of his school talk of the elective affinity of organic types, I hear a jargon I cannot comprehend, and I turn from it in disgust; and when they talk of spontaneous generation and transmutation of species, they seem to me to try nature by an hypothesis, and not to try their hypothesis by nature. Where are their facts on which to form an inductive truth? I deny their starting condition. 'Oh! but,' they reply, 'we have progressive development in geology.' Now I allow (as all geologists must do) a kind of progressive development. For example, the first fish are below the reptiles; and the first reptiles older than man. I say we have successive forms of animal life adapted to successive conditions (so far, proving design), and not derived in natural succession in the ordinary way of generation. But if no single fact in actual nature allows us to suppose that the new species and orders were produced successively in the natural way, how did they begin? I reply by a way out of and above common, known, material nature, and this way I call *creation*. Generation and creation are two distinct ideas, and must be described by two distinct words; unless we wish to introduce utter confusion of thought and language.

In this view I think you agree with me; for I spoke to you on the subject when we met (alas, *ten* years since!) at Dublin.[1]..." 1845. Æt. 60.

On the day Sedgwick wrote the last letter he intimated to the editor of *The Edinburgh Review* his willingness to try his hand at destroying the influence of what he called "a rank pill of asafœtida and arsenic, covered with gold leaf[2]." By return of post came a most effusive reply. "At the close of my *first* glance at the book," wrote Mr Napier, "I instantly said to myself that you were the man, and the only one known to me, capable of taking it to pieces aright; capable of exposing the shallow but imposing and dangerous fallacies of which it is made up, and which threatens by its popularity with *learned* women, and half-read and shallow men, to deluge the country of Bacon and Newton with modes of thinking upon philosophical subjects equally spurious and unmanly....I have only now to ask whether I may hope to see the wished-for Article for my next Number?" Sedgwick lost not a moment in setting to work, and by the middle of June had completed his first and last attempt at formal criticism. He spared no pains. The best authorities on the points in dispute were consulted; Herschel, Agassiz, Owen, and Professor Clark, to whom the pages on fœtal development were in great measure due. As time was precious, each section was printed while the next was being written, so that Sedgwick had no opportunity of having the whole essay under his eye at once[3].

[1] The whole letter is printed in *Louis Agassiz, His Life and Correspondence*, 2 vols. 8vo. i. pp. 383—387.

[2] To Macvey Napier, 10 April, 1845. Printed, with three other letters on the same subject, in *Selection from the Correspondence of the late Macvey Napier, Esq.* 8vo. Lond. 1879.

[3] Sedgwick told his niece Isabella, in a letter dated 3 July, 1845: "It was written during the hours of the very early morning—the only time when the rheumatism gave me a reprieve, and when my head was clear. When I finished a sheet or two I forwarded the MS. to Edinburgh, so that part of my article was there passing through the press, while the other part was slowly uncoiling itself from my brain in Cambridge. My last proof-sheet was sent off after the Association met."

1845. Æt. 60. Hence the unusual length of the article, notwithstanding numerous editorial excisions—a length which drove Mr Napier to despair, as sheet succeeded sheet, and still the end did not come. The sixth sheet was all but filled before Sedgwick could be induced to stop. The result can hardly be called successful. No doubt everything that could be said to damage the *Vestiges*, both in conception and execution, is to be found in the article. But, notwithstanding its solid merits, and some eloquent passages, it is dogmatical, ponderous, dull. Sedgwick had said himself, in one of his letters to Mr Napier, that he wished for Sydney Smith at his elbow; and his own laboured periods make the reader long for the light touch of that brilliant humourist. Sedgwick was too much in earnest to write effectively; he attacked with savage ferocity instead of calm criticism or good-humoured ridicule; in a word, he used a sledge-hammer where a birch-rod would have been a suitable weapon. "Nevertheless, it is a grand piece of argument against mutability of species," as Darwin wrote to Lyell, "and," he added, "I read it with fear and trembling[1]"!

To Miss Isabella Sedgwick.

April 27th, 1845.

"...On Friday last I had my field-lecture. I did not enjoy the scamper, as I had the gout hanging about me, and I was excessively fatigued. We went round by Willingham and Haddenham, so that we had passed over 26 or 27 miles before we reached Ely. There we lunched, and examined the new cuttings for the railroad. I have now a noble horse I call *Mercury*, but in truth he is almost too much for me. Several of the young men were well-mounted, and by no means disposed to spare their horses, and in crossing Willingham fen I came in second; yet I pulled hard more than half the way, and wished to go slower...."

[1] *Life and Letters of Charles Darwin*, i. 344.

To Hugh Miller, Esq.

1845. Æt. 60.

CAMBRIDGE, *May 8th*, 1845.

Dear Sir,

I have received several copies of *The Witness* newspaper containing your instructive and most amusing letters on the Hebrides. Whether I have to thank you personally or some one else, for sending them, I cannot tell, but I am sure I owe you a very large debt of thanks for the information you have given me. I cannot persuade myself to address you as a stranger, after having read your work on the Old Red Sandstone, which gave me, on its first perusal, and ever since, more pleasure than I can describe in words, without seeming to run into the extravagance of flattery. I only speak the plain truth when I tell you that I was, and continue to be, delighted with it. The British Association meets here next June—I think on the 18th. I do not know whether your engagements will permit you to come on that occasion; but come when you will I shall rejoice to see you, and shew you my Museum....

Believe me, dear Sir,
very faithfully yours,
A. SEDGWICK.

Sedgwick had done his best to bring the British Association to Cambridge. He delighted in these gatherings. "Were there no other benefit from the British Association," he wrote to Herschel[1], "it would pay us well for our cost and labour by bringing our honoured friends around us. For years back I have been so bothered by gouty maladies that I have done nothing. But these meetings give back to me a momentary life and energy. So I have a double cause to thank them." At the same time he admitted to another friend that he "dreaded its coming; my crazy body will be hard-taxed by it." And this was no doubt the case; for though he did not allow outward signs of fatigue to appear, he was completely knocked up when it was over. "It went off admirably,"

[1] To Sir J. F. W. Herschel, 11 April, 1845.

1845. Æt. 60. he wrote, "the best and most intellectual meeting we ever had, though not the most splendid and numerous. I wish I had been in more vigorous health, but I did my best. My task was laborious, for I had the chair of the Geological Section, as I had at Liverpool. All the business over I went to Ely with a rather large party. I was so exhausted that when they went to see the Cathedral I undressed and went to bed; and a comfortable sleep of two hours enabled me to keep my head up the rest of the evening[1]."

Sedgwick opened the geological section with a paper *On the Geology of the Neighbourhood of Cambridge*, a subject on which he had already spoken to the Philosophical Society, and which he frequently recurred to in subsequent years. As usual, however, his most successful efforts were unpremeditated; and his speech at the last meeting, when he proposed a vote of thanks to the Mayor and Corporation, was probably far more effective than his elaborate lecture.

In July of this year Sedgwick was elected to the important office of Vice-Master of Trinity College, vacant by the resignation of the Reverend Thomas Thorp.

It will be remembered that Sedgwick had done no field-geology since the summer of 1842, when his work among the Lake Mountains was interrupted by bad weather. This year, he says, "I spent the whole summer in going over a part of my old work in Cumberland, Westmoreland, and North Lancashire, endeavouring to bring the rocks above the Coniston Limestone (the equivalent of the Bala Limestone) into some accordance with the groups of the upper and true Silurian system[2]."

To Miss Kate Malcolm.

CAMBRIDGE, *Oct. 29th*, 1845.

My dear Kate,

I trust that you are happily settled at Rome. Your letter found me somewhere among the Lake mountains,

[1] To Isabella Sedgwick, 3 July, 1845.

[2] *Preface* to Salter's *Catalogue*, p. xxv.

doing battle with the rocks. The weather was wet and tempestuous; twice I was made ill by it; once I was fairly laid up, and confined to my room for five days. I did, however, contrive to do the task I had set myself, and my summer was not unprofitable. For my companion I had a famous fossil-collector named John Ruthven. There is an old Latin proverb which in plain English tells us 'not to trust a cobbler beyond his last.' But all rules have their exceptions, and Ruthven, though once a cobbler, is now a geologist whose fame will last longer than the stoutest shoe that ever came off his ancient last. Your sister is a great poet. Tell her to send me a song in which Ruthven and his dog may figure like the spread wings of Pegasus.' I beg her pardon, I have not yet introduced the dog. His name is Charlie—a beautiful gallant fellow, between a setter and a spaniel. He soon took such a fancy to me, that he never left me, except when he ran after the grouse and hares which he started on the mountains; and he soon returned to ask my thanks for the merry interludes in my work. He ate from my hand, and slept under my bed. After about a month's ramble we turned back to Kendal, the native place and home of the cobbler and his dog. There I deposited an enormous heap of stones, which were put in a sack near the landing-place on the first floor of the inn, The King's Arms. When we started on our next round Charlie was missing—we could not wait—and the conclusion was that he had gone across the fields with the cobbler's little grand-daughter, who, in spite of his devotion to me, had still a corner of Charlie's heart. So he was left behind. Just sixteen days after, our work among the mountains brought us to Bowness—only nine short miles from Kendal. It was Saturday evening. The scientific Ruthven began to yearn towards his wife and children. I remained over Sunday at Bowness, and my companion spent the day at Kendal. Early on the Monday morning he returned with Charlie, and the joy of the new meeting was such as to be worthy of Olympia's pen of fire.

1845. Æt. 60.

1845. Æt. 60. Charlie did everything but talk, and indeed his looks were beyond expression. But what had he been about during the sixteen long days? Listen and you shall hear.

Not many minutes after we started from Kendal he came cantering up to the inn—he looked wistfully—ran to my bedroom—and took his place under my bed. From this position he was soon turned out by the maid's broomstick; for a new guest had come, and the room was wanted. On changing his quarters he, however, spied the great sack of stones which, with curious eye, he had seen me pack. On it he mounted guard—and when the maidkin asked him to come down he replied with a growl, 'This is my Master's and you shall not touch it. Here I mean to remain.' This speech was accompanied with such a significant grin, and such a show of fangs, that the lass was fain to come to a parley. The mistress was called up as umpire, Charlie stuck to his stone-bag, and was as little disposed to give up the point to the mistress as he had been to the maid. 'Let the poor fellow remain,' said Mrs Boniface. 'He is a faithful dog, and will soon be tired when he finds that the Professor's gone from us.' She was mistaken, however. He kept his station at the sack sixteen days, only rushing down stairs, from time to time, when he heard a carriage pulling up at the door. Then he would rush down to the yard, take a look at the travellers, and come back with a look of bitter disappointment. For three entire days he never tasted food. On the fourth day he ate greedily what was offered him, and then mounted guard as before. Now he began to be interesting. The servants fed him. He allowed them just to pat him on the head; but if anyone dared to touch the sack, Charlie's blood was up in an instant, and the hand was compelled to retire. All Kendal was full of the story. All travellers were shewn the dog. One gentleman offered a large price for it; but the landlady told him it was not her property, and that no sum could purchase it before our return.

When Ruthven reached Kendal, he enquired of his wife

what was become of Charlie. 'I have not seen him for a fortnight,' replied Dame Ruthven. 'He came twice, soon after you went away; but, finding that you and the Professor were not come back, he ran out the moment the door was opened for him; and both times he refused to take any food.' With much surprise my friend Ruthven then went to The King's Arms to inquire there for Charlie, and Charlie knew his voice and came rushing down the stairs to meet him. Great was his joy; but the moment after he ran down the inn yard, looked into every carriage, and then came back with an expression of deep disappointment. Ruthven then heard the story I have told you. The dog followed his master back to Bowness, and the rest you know already. Here are the prose materials for your sister's poem.... 1845. Æt. 60.

Last night I returned to Cambridge; and here I am, writing a long letter, about nothing, to my dear young friend Kate Malcolm. Next Monday I begin my lectures. They will be my chief employment till the beginning of the Christmas vacation. Our Master, whom I saw at chapel this morning, is well. He is putting up a statue of Lord Bacon in our chapel. It is a glorious and worthy monument, and is at Whewell's sole cost. What say you to this? While I have been away they have put up a noble statue of Lord Byron in our library. It was executed at Rome by the greatest of modern sculptors—the author of Night and Morning. So we have something for your classical eyes when you come back to look upon us....

You will before this have heard that Newman and more than twenty others of the Oxford School have at length gone over to Rome. Shame on them that they did not do so long since! Their attempt to remain in the Church of England while they held opinions such as they have published, only proves that fanaticism and vulgar honesty can seldom shake hands and live together. I pity their delusion, I despise their sophistry, and I hate their dishonesty. Personally I

1845. Æt. 60. know them not. It is not of persons but of principles I am speaking. Often in my younger days have I wondered at the proneness of the old nations to idolatry; but I have ceased to wonder. The sin of idolatry is knitted to the human heart. We may worship a priest, or worship ourselves, or worship our own works, while we are talking of idolatry, and thinking that we are serving our Saviour. Ever, my dear Kate, your affectionate friend,

A. SEDGWICK.

To Miss Wakefield.

CAMBRIDGE, *October*, 25, 1845.

"...This summer my way has been beset by honeymoon parties. I never halted at a private house without hearing of wandering brides, or of young persons who were on the very verge of the matrimonial precipice. I hope my kind friends on the banks of the Kent[1] will look well to their steps during such a season, for if they slip into the gulf they will find it no easy matter to get back again. Perhaps it is envy that makes me hint this caution, for I did somewhat envy the happy faces which met me at every turn. I verily believe all I am now good for is that I am a warning to others—stuck up like an old broken mast on a shoal to teach good people how to steer, without risk, into the haven of marriage. When you undertake this voyage, may it be prosperous, and may every blessing follow you and go with you!"

The story of the dog *Charlie* was one of those dramatic narratives which Sedgwick never tired of telling, or his friends of listening to. Another, of equal interest, belongs also to this year. It is printed, as nearly as possible, from Sedgwick's dictation.

THE STORY OF *BOY*.

One summer, during the Cambridge Long Vacation, I had been working among the rocks in the Lake district, and at last had

[1] Miss Wakefield, afterwards Mrs Cropper of Ellergreen, was one of Sedgwick's earliest lady-pupils in geology. She lived near Sedgwick in Westmoreland, a village on the River Kent, for which see Vol. i. p. 33.

reached the mountain-ranges overlooking the beautiful valley of the Eden. After a long day on Crossfell, I went, towards evening, to the house of Mr Bowstead of Beck Bank, near Great Salkeld. He had invited me to stay at his house, knowing I was a friend of his son, the late Bishop of Lichfield[1]. Mr Bowstead was a grand example of a Westmoreland Statesman. He lived upon his own land, looked after it himself, and had, besides, great flocks of sheep upon the extensive moors which surrounded his estate. 1845. Æt. 60.

Before going into the house he walked with me round his garden and orchard. I observed under one of the apple trees, a stone, with the word Boy deeply cut on it. Mr Bowstead saw that I was looking at it with some curiosity, and said: "My faithful dog *Boy* is buried there; I have put up that stone to his memory. When I was a young man he saved my life. I will tell you the story after supper, if you care to hear it."

I did full justice to Mr Bowstead's excellent supper, for I had been walking all day, and was very hungry. After supper we drew our chairs near the fire, for a September evening in Westmoreland is often chilly, and I reminded Mr Bowstead of his promise.

"I am becoming an old man now," he said, "and *Boy* was my favourite dog many years ago, when I was a young man. That dog lying at your feet is one of his descendants"—pointing, as he spoke, to a handsome long-haired collie, which was lying on the hearth, lazily blinking at the fire. "*Boy* was my constant companion in many a long tramp over the wild moors which lie above Great Salkeld, and he was wonderfully clever and sensible. After a great snow-storm, when the sheep were covered up in the deep drifts which collect in the hollows of the hills, he would go out with me, and some of the farm-men, and having ascertained what we were in search of, probably from seeing us dig out some sheep that were only partially buried, he would begin to snuff about in a peculiar manner, give a little whimper, and scratch with his paws on the snow, look at us, and then run on, and repeat the signs by which he told us a sheep was imprisoned below in the drift. We dug through the snow with our spades, and there certainly, in a few minutes, we came upon a sheep, which generally ran off, looking very wild, but apparently none the worse for its imprisonment.

"When *Boy* was four or five years old the winter had begun earlier than usual. In the first days of December we had frost and occasional snow-showers, and the cold increased as the month went on. One morning heavy clouds were driving across the sky, and I knew that the short winter's day would be followed, most likely, by a wild and tempestuous night; so early in the afternoon I set off with *Boy* and a younger dog, to see after the sheep on the moors. The men were busy about the farm-work, and I told them I should not want them. I had a hard afternoon on the fells, but at last, by help of the dogs, I collected the sheep into a little, sheltered,

[1] James Bowstead, B.A. 1824, Fellow of Corpus Christi College; Bishop of Lichfield, 1840—43.

1845. Æt. 60. mountain-valley, and turned to go home. It had been freezing hard, and was beginning to snow, and the daylight was nearly gone. In jumping down from the top of a high wall, I slipped and fell, dragging down in my fall, some heavy stones which fell upon me. I think I must have been stunned at first: for when I came to myself, and tried to get up, I found I could not stand. My leg was broken. I tried to drag myself along the ground, but I soon found that was impossible, and in intolerable anguish I realized that I could get no help; for I was more than three miles from human habitation.

"I knew my father would send to seek me, when the hours passed and I did not return home, but I knew also that it was most unlikely I should be found before morning, when I should be beyond human aid. The two dogs sat at a little distance, watching me; I called *Boy* to me, he licked my face and hands, but when I pointed to my broken leg, and said, "Gang hame, and tell 'em," and tried to drive him away, he would not go, but sat down again at a little distance, and sorrowfully watched me. At last a thought struck me. I pulled off my woollen mitten, sopped it in the blood which was oozing from my fractured leg, called *Boy* again to me, showed him my bleeding leg, and the bloody mitten, tied it securely round his neck by a strip torn from my neckerchief, and again said, "Gang hame *Boy*, and fetch 'em." The words were scarcely out of my mouth, when the dog bounded off, and was out of sight in a moment, the young dog following. I then knew, if *Boy* could save me, I should be saved, so I had a gleam of hope; and having commended my soul to the care of Almighty God, I waited with patience. Indeed I think I was benumbed with the cold, and probably fell asleep.

"My father thought I was late in returning, and my mother had been watching the heavy snow-clouds through the fast-gathering darkness with some anxiety, when they heard *Boy* at the door, barking to be let in, and they supposed I was not far behind him. But the dog did not, as usual, lie down by the fire, but whined and moaned, and at last ran up to my mother, put his paws on her knee, and looked her earnestly in the face. In a moment, she saw the mitten tied round his neck, knew it was mine, and found it was bloody. The dog continued whining, and pulled at her gown. My father and mother recognized at once, that I had met with an accident, and that *Boy* had come for help. My father called the farm men together, and lighted the lanterns; my mother got blankets and brandy, and in a very few minutes the party set out, *Boy* leading the way. He had waited patiently while the preparations were being made, but now he trotted on in front, looking back occasionally to see that the party were following, and as if he wanted them to make haste: and so he took them straight to the place where I was lying, a white heap in the snow. I was aroused to consciousness by *Boy* whining and licking my face. He seemed perfectly satisfied when I was lifted up on a rude litter made of the

blankets and poles the men had brought, trotted home besides me, and for many days could scarcely be persuaded to leave my bedside. 1845. Æt. 60.

"*Boy* lived for many years after with us, as a much-loved friend, and when he died was buried in the orchard, and the stone you saw was put over his grave."

It was during this year that a serious misunderstanding threatened to sever the friendship which had so long subsisted between Sedgwick and Whewell. That their old cordiality should be impaired by the altered relations in which they now stood to each other was inevitable; and it is perhaps surprising that the explosion should have been so long deferred, when it is remembered that both were vehement, impulsive men, disposed to do suddenly and violently what they thought right, without regard to consequences, and, in Whewell's case, with but little regard for the feelings of others. The quarrel began on this wise.

When Sedgwick returned from Germany in 1839 he brought back with him a pair of Pomeranian Spitzhunds, which he called Max and Shindy. Max did not long survive, but Mrs Shindy lived to extreme old age, and was rarely separated from her master, either at Cambridge or at Norwich. It may be doubted whether she actually slept in his college-rooms, but she certainly passed the whole day there, and her puppies were the most highly-valued gifts that Sedgwick could bestow on his young friends. In short she became an institution—as inseparable from Sedgwick's personality as his voluminous great-coat or his respirator. No doubt her presence in college was an anomaly. The statutes by which the college was then governed proscribed dogs, ferrets, hawks, and singing-birds; but nobody ever objected to a canary; nor was it thought wrong to go out hunting or shooting, though the statute went on to say that no person was to be addicted to either of those sports. Besides, in the opinion of the University, Sedgwick was a privileged person, whose conduct was above all rules. Whewell, however, thought otherwise. He was too conscientious to make exceptions in favour of his

1845. Æt. 60. oldest and most intimate friend. In this he was no doubt right, but he had an unfortunate habit of doing what was right in the way most calculated to give offence. So, instead of speaking to Sedgwick privately, he wrote him a letter.

6. June, 1845.

My dear Sedgwick,

I have a request to make to you as Master to which I attach great importance. I think it very important that we should conform to the Rules made by the College for its good order, and [to] the Statutes to which we have so recently given our consent as the Laws by which we are willing to be governed. Your frequent appearance in the College Courts accompanied by a dog is inconsistent both with those Rules and with the Statutes cap. xx. If the practice is persisted in either the Master will be understood to be deficient in enforcing the Rules and Statutes, or you will be understood to be defying the Master and disregarding the laws and statutes.

This being the case, I earnestly request that you will discontinue the practice to which I have referred. Your own regard to the College to which we have both so long been bound with ties of affection and duty will prevent your feeling any offence at this request, and will, I hope, [enable][1] you to comply with it.

I am, my dear Sedgwick,
Yours most truly,
W. WHEWELL[2].

The inflexible justice of this letter cannot be denied; but, having regard to Sedgwick's peculiar position, his frequent confinement to his rooms for many weeks in succession, and the pleasure which he derived from the society of his dog, it was both unwise and unkind. Sedgwick was exceedingly angry, and expressed himself in terms which, if they ever reached Whewell's ears, would not have mended matters.

It is possible that this storm might have blown over, had not a second, and still more unfortunate, occurrence, added fuel to Sedgwick's indignation. Among the guests whom he introduced into hall at a large dinner given to the strangers present at the Association was Mr Jerdan, editor of *The Literary Gazette*. Whewell had been greatly incensed by

[1] This word is illegible in the draft.

[2] Printed from a draft in Dr Whewell's diary, now preserved in the Library of Trinity College.

some unfavourable criticism in that journal, and on seeing Jerdan, sent his servant to ask whose guest he was[1]. It is hardly necessary to observe that Whewell was entirely in the wrong. The Master of Trinity College has no control over the hall; and no right to interfere with the privilege of the Fellows to introduce whom they please. An angry correspondence followed, which, perhaps fortunately, has not been preserved. Whewell was as quick to forgive as he was to take offence, and it is conceivable that he fully admitted his error. Nor did he and Sedgwick have any further open difference; indeed early in the following year we find him asking Sedgwick's advice on the geological chapters in his *History of the Inductive Sciences*, of which he was preparing a new edition, and Sedgwick prescribing for Mrs Whewell "a few days of Norwich air breathed by my fireside;" but it may be doubted whether their friendship was ever really reestablished on its old basis. 1845. Æt. 60.

At the beginning of the Michaelmas term it became Sedgwick's duty, as Vice-Master, to convey the thanks of the College to Whewell for his gift of Bacon's statue. The letter is a formal document, into which personal feelings could not enter; but the private letter which Whewell appended to his official answer shews that he was anxious to seize the opportunity of saying something which might convince Sedgwick of his sincere wish for a complete reconciliation.

TRIN. COLL. *November 7th*, 1845.

My dear Master,

The enclosed letter[2], though dated November 1st., only reached me on Wednesday evening, and I now employ my first moments of leisure in complying, as far as I am able, with the united wishes of the Resident Fellows of the College.

I must say, with truth, that a more delightful task could not have been imposed on me; for I feel, in common with every good

[1] Our account of this affair is derived from Mr Jerdan's *Autobiography*, iv. 295, compared with Mr Romilly's *Diary*.

[2] A letter from the resident Fellows requesting him "to express to the Master, in our names, and in the amplest terms, our grateful acknowledgment of his munificent donation."

1845. Æt. 60. member of our Society, that the noble Monument with which you have adorned our Chapel entitles you to our heart-felt thanks, and the expressions of our deepest personal gratitude.

You give us credit, I am well assured, for such sentiments; and it is in no hope of convincing you that we entertain them that we now address you; but we do so to satisfy our own feelings, and to perform a positive duty we owe to ourselves and the College.

I have often longed to see a Statue of Bacon erected in our Chapel, and it is a matter of most honest and heart-felt exultation to see one now, worthy, as far as any sculptured stone can be, of that illustrious Philosopher, given to us by the munificence of one whom Providence has placed at the head of our Society, who has spent the best years of his life as our brother, and who has drunk deeply from those fountains from which Bacon and Newton drew their strength.

When the heart is full a few words will best tell its meaning; but I hope you will allow me to add a few words more on my own account. Let me then congratulate you on having so well completed an object you have long earnestly wished for. The statue you have erected is a noble work of art, combining, as it does, the severity of the old Monument with the grace and freedom of more modern sculpture. It is, in this respect, worthy of a place by the side of our glorious statue of Newton. It represents Bacon, as we may figure him to ourselves, in his latter days, when his life was most truly great and glorious.

Our College History is our best inheritance. You, my dear Master, by your example, your great intellectual labours, and your munificence, have done your utmost to keep in our minds this goodly inheritance, and to make us worthy of it; and I trust that under Providence you will be permitted (to whatever station you may be called) to enjoy the happy fruits of your long-continued services in the great cause of scientific truth and sound academic learning.

It delights us all to think that there is a moral fitness in having the sculptured figures of Bacon and Newton in our house of daily prayer; one represented in the repose of philosophic age, the other in the vigour of life, and gazing towards the heavens as if under the inspiration of some great discovery.

The philosophic labours of these men were not carried on to exalt themselves. They bowed before a power above all material nature, and they had an aim far above this world's knowledge and all the honours it could bring them. They laboured honestly and nobly to 'erect a rich storehouse to the glory of the Creator,' and the good of the human race. It is a high privilege to have contributed, as you have done, to keep alive such remembrances as these, both among the older and younger members of our Society; and I trust that the sobering as well as the exciting influence of these sentiments will be felt among us, and those who follow us, so long as England shall last as a nation, and its institutions and

monuments are the admiration of wise and good men. Pray accept this expression of my hearty good-will and gratitude, and believe me, my dear Master, 1845. Æt. 60.

Affectionately yours,

A. SEDGWICK, *Vice-Master*[1].

TRINITY LODGE, *November 8th*, 1845.

My dear Sedgwick,

I enclose herewith a letter containing my acknowledgements of the kind things you have said to me on the part of the Fellows who requested you to address me; and I cannot help adding a few lines to thank you, though I cannot do it adequately, for the manner in which you have discharged this office. I think it fortunate that the communication on this subject was to be made through you, who know and feel so well the purport and the value of what Bacon did. I have already said, in a book in which I have ventured to treat of Bacon's philosophy, that you seemed destined to be my fellow-labourer in such a task[2]; and we have lately had just reason to say so. The admirable and noble sentiments respecting the influence of our monuments which your letter contains, give an additional value to your expressions of kindness relative to the monument now erected. May you, my dear Sedgwick, long continue to exercise upon us and upon the world a beneficial influence by the utterance of such sentiments; and may you and I long see the continued and increased prosperity of the College which we both so dearly love.

I am always, my dear Sedgwick,

Affectionately yours,

W. WHEWELL.

Sedgwick spent Christmas at Collingwood with the Herschels. A pleasant party of old friends had been got together, and there were games for the young people, into which he entered with as much delight as any of them. It is amusing to read his account of a grand Christmas tree, then a novelty in England, for which he apologizes to his correspondent as "a German custom which old Sir William religiously kept up, and which Sir John continues[3]."

Early in January Sedgwick laid before the Geological Society some results of his last summer's work. The paper, *On the Classification of the Fossiliferous Slates of Cumberland*,

[1] Printed from the original, preserved in Trinity College Lodge.

[2] *The Philosophy of the Inductive Sciences*. See Vol. I. p. 2.

[3] To Miss Malcolm, 30 January, 1846.

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1846. Æt. 61. *Westmoreland, and Lancashire*, was a continuation of the paper with the same title read to the Society in March, 1845; and at the end of May he wrote a fourth letter to Wordsworth, embodying his latest views on the geology of the Lake district.

The two next letters make us think of the Christmas Vacation of 1804, when Sedgwick first visited the Aingers at Whittlesea, and made the acquaintance of young Harry Smith[1].

To James Ainger, Esq.

CAMBRIDGE, *April 5th*, 1846.

My dear Ainger,

I send you by this post a copy of *The Cambridge Independent Press* for the past week. On the last page you will see a letter by J. Eaton—a son of my servant. I think it a delightful production; and (excepting Harry Smith's despatch[2], which nothing can reach) it is one of the most soul-stirring letters that has come from India. Yet the writer is a private soldier. I will do my best to get him at least made a serjeant. I believe he is an excellent steady lad, and I am sure he deserves promotion. All his letters are first-rate—full of eloquence and spirit, and quite correctly written. But enough of the letter. Let me from my heart congratulate Sir H. Smith's friends on the honour shed on them and their native town. It must indeed be a moment of exultation to you all. Of course you have read Wellington's and Peel's speeches of last Thursday, and indeed all the speeches. I do not believe the old Duke ever spoke so much praise in the course of his life before, and all he said was from the heart.

I came back from Norwich only yesterday. Pray send me some Whittlesea news. Where are Dr Ainger's family? Where Mr Cook's[3]? &c. &c. If Miss Eleanor Smith is now

[1] Vol. I. p. 76.

[2] Sir H. G. W. Smith won the battle of Aliwal, 28 January, 1846, with 12,000 men and 32 guns against 19,000 Sikhs with 68 guns.

[3] Rev. J. T. Cook, Fellow of St John's College, an early friend of Sedgwick's, married one of Dr Ainger's sisters.

in Whittlesea, give my best remembrances to her, and my heartfelt congratulations. What eventful years have passed since I met her at a Whittlesea Ball! At that time your poor brother was over head and ears in love with her. My best wishes to your family. Ever most truly yours, 1846. Æt. 61.

A. SEDGWICK.

What a lucky fellow Sir H. Smith was to get a battle to himself! and such a battle!

To Miss Fanny Hicks.

GOOD FRIDAY MORNING, [19 *April*,] 1846.

Dearest Fan,

...I have written to the Chancellor of the Exchequer about young Eaton, and he promises to write to India, so I hope the heroic lover will be a serjeant. I have his original letter before me. One or two sentences have been altered by the Editor of *The Independent Press*, and not for the better. After describing the three cheers given to them by the line after their charge, it goes on as follows: 'Give my best love to my dear Brothers and Sisters. I wish they would all write and send some newspapers. Kiss my little niece. Also, my dear mother, tell Rhoda Harding I thought of her in the battle's heat, and that as I cut at the enemy and parried their thrusts my arm was strong on her account; for I felt at that moment that I loved her more than ever, and may Almighty God bless her. Tell her to write to me often, for something assures me that I shall surmount all difficulties.' This is, I think, exquisitely beautiful, for it is the strong language of pure feeling in the hour of severest trial. You would suppose you were reading the letter of some Middle Age hero, rather than one by a private in an English regiment, and in the 19th century. I have no more paper and no more time. Ever, dearest Fan,

Affectionately yours,

A. SEDGWICK.

1846. Æt. 61. The gout was Sedgwick's "close companion" from the beginning of March to the end of June, when he betook himself to Harrogate in the hopes of shaking it off. But the "sweet waters" as he called them, "offended my nostrils, and did no good to my hands and feet." Still, Yorkshire was always a pleasant place to him, and excursions with his relatives compensated him for his disappointments. "What glorious expeditions!" he wrote afterwards: "what noble scenery! such scenes not merely delight the senses, but minister food to the heart and understanding. Two cathedrals—one of them perhaps the finest in the world! And three such noble middle-age ruins! the monuments of bygone days, and of sentiments of piety which, however misdirected, belonged to the loftiest aspirations of the human heart—nay, which, during a barbarous age were often a refuge for the oppressed, and the means of keeping up whatever was left of letters and of science[1]."

The first days of July found him in Wales accompanied by John Ruthven, "polishing up some of his old work." The weather interfered a good deal with their expeditions, and Sedgwick was out of sorts and out of spirits. Still he could give a good account of what he had accomplished to Murchison. After pointing out that it was impossible for him to come to the meeting of the British Association at Southampton (at which Murchison was to be President), he proceeds:

CARMARTHEN, *August 7th*, 1846.

"Spite of the merciless rain I did some good work in North Wales. I have my Cambrian System better in hand than I had, having now locked Carnarvonshire and Merionethshire together. There was a screw loose before. As a great physical system they are inferior to all South Wales (excepting Pembrokeshire of which I speak nothing and know little or nothing). Again, much of South Wales is inferior to

[1] To Isabella Sedgwick, 13 July, 1846.

the two bottom groups of your Silurian System, and therefore out of your System in the sense in which you first used the words. 1846. Æt. 61.

I will not now touch on controversy, only I state thus much; that I have now the precise general views I had at the end of 1832—of course with infinitely improved details and better sections. South Wales is a great puzzle, with much of which I mean not to trouble my head."

A lesson on the way to pronounce Welsh names will contrast agreeably with these stony details.

To Miss Fanny Hicks.

TREMADOC, *July 23rd*, 1846.

"...The miserably damp weather made me rheumatic and low-spirited, so I nursed one day at Carnarvon, and then drove to Pwllheli. What a charming name! In order to pronounce the first part (*Pwll*), you must blow out your cheeks just as you do when you are puffing at a very obstinate candle; then you must rapidly and cunningly put your tongue to the roof of your mouth behind the fore teeth, and blow hard between your cheeks and your tongue, holding your tongue quite steady all the while, as a man does a spade just before he is going to give a good thrust with his right foot. With such a beautiful direction you cannot fail to pronounce *Pwll* quite like a genuine Celt. Should the word be *Bwlch*, take care to observe the previous directions, only, in addition, while the wind is whistling between your rigid tongue (sticking forwards spade-fashion), and your distended cheeks, contrive by way of finale to give a noise with your throat such as you make when an intrusive fishbone is sticking in it. So much for my first Welsh lesson. Take care, dear Fan, that it be not thrown away.

I remained two days at Pwllheli. Yesterday I packed my baggage, and drove to this place. I have now been eleven days in Wales, and have not once seen the tops of the mountains; they are covered by trailing clouds.

1846. Æt. 61. If you write by return of post you may address me at Dolgelly, North Wales. (N. B. this word is by no means to be sounded like our maid Doll's jelly-bag. The *ll* must always be blown, in the way I told you, between the tongue and the cheeks.) If you put off writing for a day or two, why then address me at Post Office, Machynlleth, North Wales. What a charming word again! *Mach* has the bone-in-the-throat sound; *yn* is sounded as the grunt given by a broken-winded pavier, when he is using his rammer; *lleth* you already know how to sound, if you have cared for my lessons."

Having settled the particular points he wished to investigate in North Wales, Sedgwick "spent about ten days in beating to the right and left, along the valley of the Towy between Llandovery and Carmarthen[1]." This, it will be remembered, he had already visited under Murchison's guidance, in 1834: but evidently he had no longer the strength and spirits which in former years had carried him triumphantly through tedious traverses. "I have during summer been wandering through a lovely country;" he wrote after his return, "but I was almost in solitude. I had no one to talk to; and I could not multiply my pleasures, or add to their greatness, by seeing them reflected from a friend's eye, or echoed back by a friend's tongue. And my health was never quite what I could have wished. In short, I am old, and cold-hearted, and torpid, and ricketty, and there is no help for it. Finally I cut and run, so as to be in Trin. Coll. by the 1st of October to take part in the Fellowship Examination[2]."

CAMBRIDGE, *December 19th*, 1846.

My dear Lady Herschel,

The season reminds me of the delightful visit I had last Christmas at Collingwood House. I trust that the tree will flourish; and that it will be surrounded with a ring of happy faces, and that no sorrowful heart may be inside

[1] To Miss Fanny Hicks, 13 September, 1846.
[2] To Miss Kate Malcolm, 16 October, 1846.

your house, though your house be full. Pray spare me a minute to let me know that you and Sir John and all the young people are quite well. I did know the Christian names of ten; but an old man's memory is full of chinks, through which things pass as fast as water through a riddle. Let me see! Miss Herschel has no name, and the second is my dear niece Isabella. Then I am at a dead stop, and cannot go a step farther without the risk of stumbling, so I had better not expose myself by guessing. Give my love to them all. I have been lecturing all the past term to an immense class—quite a geological "revival;" and several ladies did me the honour to sit under me. Just as I finished last week, my voice struck work. A dire cold took possession of me, and made me good for *nothing*; and, though much better, I am still a grumbler. I must however endeavour to clear my vocal organs against Tuesday, when we are to celebrate by every festive demonstration our three-hundredth anniversary. 1846. Æt. 61.

I have no news to send you. We, some of us, grumble at our Astronomer for not securing the new planet, after Adams had tied a noose tightly about its neck so early as September, 1845. I dare say you have seen Airy's paper read before the Astronomical Society; and Challis has just published (as an Observatory Report) a similar document, which puts Adams' claims to honour in a stronger light than before. Is not the whole thing provoking? What says Sir John to it and of it? Is it not a pity that young Cantabs should be so modest? and that old Professors should not trust them? When are we to have the sweepings of the southern sky? I remember a nursery rhyme which runs as follows:

> Oh Herschel! oh Herschel! where do you fly?
> To sweep the cobwebs out of the sky.

No doubt the cobwebs of the old saw meant *nebulæ*. At least it seems probable. Cobwebs and diamond-dust from all the southern concave! I am so stupified with cold that I

1846. Æt. 61. hardly can spell my own name. A thrice happy Christmas to all within your door, and round about you! Ever truly yours,

A. SEDGWICK.

The year 1846 ended with the celebration of the three hundredth anniversary of the foundation of Trinity College by a grand banquet in hall (22 December), an occasion which would have been welcomed with enthusiasm by Sedgwick, had he been in better health. But he had caught cold in London early in December, and made it worse on his return to Cambridge by helping to entertain Lord Brougham in hall when he ought to have been nursing himself by his fireside. The commemoration therefore found him "as mellifluous as a frog." Mr Romilly, however, has recorded that at the end of dinner, when "Lord Monteagle made a warm-hearted address (about old recollections) in proposing the Vice-Master and Seniors, Sedgwick made one incomparably better in returning thanks."

At that time the twelve days of Christmas were celebrated with special hospitality, and on the last day of the old year there was a midnight gathering in the Combination Room. "We had a very merry evening," says Sedgwick, speaking of the latter festival; but, when it was over, he broke down completely, and was confined for several weeks to his own rooms. The following letters describe his condition and his occupations.

To Miss F. Hicks.

TRINITY COLLEGE, *January 3rd*, 1847.

"...I have no news—I hardly see a soul—the college is deserted, except by men looking dismally forward to the Senate House examination. Only think! to fill up time I have been reading *Robinson Crusoe!* For in the stupid soddened state of my brain I can think of nothing worth thinking about, except indeed when I sometimes think of my friends, and wish myself amongst them. So, in pity, my dear Fanky, and to do my cold good, pray send me a long

letter—the longer the better—all full of Scalby news. I hope you are all well, and then I am sure you will all be happy; for you now make a full family muster. How infinitely better than my most miserable solitude! even though you be a little bothered by the elements. The last account your Mamma sent me gave a frightful account of the snow—up to the eaves of the houses! *Now*, I suppose, it must be over the chimney-tops. It lies thick in the court of Trinity, and to all appearance, means to keep its place for some time to come, and whenever I look out of my window it makes me sneeze. The noises I make are horrible—my nose is quite indecent—my eyes are two living fountains of salt water—voice I have none that is human, but I sometimes bark like an old toothless mastiff. As for my figure—I have spectacles on nose—a black velvet cap on my head—a large padded dressing-gown wrapped about me—and my shoes are slip-shod—so I put them on in the morning, and so they have remained ever since. In short I am little better than a barking automaton. Having thus sent you my charming picture, pray send me yours in return, or rather send me a family picture—Darby, Joan, and the chickens, etc. etc. A thrice happy new year to every one of them!..." 1847. Æt. 62.

To Archdeacon Hare.

CAMBRIDGE, *February 2nd*, 1847.

My dear Hare,

The *great* bell sounded for chapel this morning, so I found that it must be a surplice day; and on leaving my bedroom I looked in the Calendar and saw that it was the feast of the Purification. The sun was shining at the moment, and there was some promise of a clear sky, which brought two old monkish lines into my head I have formerly heard Pugh[1] repeat in our Combination Room:

Si Sol splendescat Maria purificante
Major erit glacies post festum quam fuit ante.

[1] William Pugh, B.A. 1789, for many years a senior Fellow of Trinity College. He was a learned, but eccentric, person, of whom Sedgwick used to tell several

1847. Æt. 62. I am sure you know these lines well, but my Latin is in a small compass, and I make the most of what I have. Old saws are not always sure, and perhaps the monk, should he fail in giving us a biting spring, might shelter himself under *splendesco*, for though the sun has done his best, I think he has not to-day been resplendent. 'Tis in general a sign a man has nothing to say when he begins to talk of the weather; but indeed there are many things I wish to say, and more than I can well pack in this sheet.

I promised to visit you during this Christmas vacation; and the vacation, in the widest sense of the word, is now over, for college lectures were resumed this morning. I first intended to visit you before the Commemoration; but ill-health forbad it. Then I hoped to come after—soon after; but since then I have been almost a prisoner in my own chambers. Several times I went out and tried to resume my duties, and each time I was seized by the throat, and driven back to my solitary fireside. So at length I struck work absolutely, took to slops and thin potations, and treated my brain with things as light as those I put in my stomach. But for old Daniel de Foe I should have died. I steadily read through eighteen volumes of his works, at the rate of about a volume a day. What a wonderful genius he was, and unlike any one else in our literary history....His style is, you know, natural, idiomatic, and pithy; and he sometimes, without knowing it himself, rises into expressions both grand and touching. But he is careless, and often ungrammatical, and sometimes very coarse and vulgar. Some of his vulgarisms I began to like, though they had no smack of the north of England, which always has great charms for my senses. He often uses such expressions as: 'while this was a-doing'; 'as we were a-going' etc. etc., and I suspect that this form belongs to the old Saxon element of our tongue, does it not? Now I hate what I think is the modern form,

good stories. There is a notice of him in Gunning's *Reminiscences*, Ed. 1855, Vol. ii. p. 53.

such as: 'while this was being done' etc.; and I remember being quite angry with a good idiomatic vulgar writer when I saw in his page the words 'while the straw was being moved.' I suppose you have read *The Adventures of a Cavalier; The Adventures of Captain Carleton*, and *The Life of Mother Ross.* The first gives you the best account of the Civil wars of the reign of Charles the First I ever read; the second gives the only good account of Peterborough's romantic campaigns in Spain that is to be found in our language; and the last, though too vulgar for an unmarried lady to read, gives us a most animated picture of the camp-followers and low scenes attending the great Marlborough's victories. These, I am almost ashamed to say, were new to me. In his homely descriptions he shoots far ahead of Sir Walter Scott, and he is infinitely more true to real history; for in these historical romances he narrates the leading facts with perfect truth, and then decks them out with minute and domestic incidents so like truth that one is almost constrained to believe them true. I have also read one or two of his political pamphlets; and they are as clever, and as natural, and yet as unlike anything ever written by any one else, as his romances. The two pamphlets for which he was twice sent to Newgate are both admirable; and looking at the events of the day from a distance I am astonished at the folly as well as the wickedness of those who punished him. But he was a dissenter, and that was enough for the politicians of the day, who were French-ridden in taste, vulgar in sentiment, narrow-minded, sceptical, and intolerant. I think he was a firm believer, and on the whole a good practical Christian. Yet 'tis very hard to believe that he could think all his novels had a moral tendency. We must, however, remember the change of times and manners. But halt, my friend! If we go on at this rate we shall get through this sheet before I have done even with the eighteen volumes of De Foe. My pen has been running as my nose did while my influenza was at the very worst....

1847. Æt. 62.

1847. Æt. 62. During this melancholy vacation I have been very solitary. The college has been empty, so that for days together, I have seen no faces but my own ugly withered face reflected from my looking-glass while I was *a-shaving*, and the ugly face of old Mrs Eaton, who is about as old as I am, and had, I suspect, no great stock of charms to begin the world with. As for my man John, he has been worse than myself, poor fellow; and I have not seen his face in Trinity College for weeks. About a fortnight since I became much better, and my stomach required something more stimulating. So I took to a course of polemical theology. During this fit I read *Note W.*[1] You know the author well, and truly did I relish both himself and his long quotations....Indeed, my dear Hare, deeply do I thank you for this admirable note, and it was sent forth in the hour of need, when good and sound men who ought to have known better, mincing dilettantes, and rabid reviewers, had joined in open-mouthed cry against the greatest and best man who has lived since the days of the first Apostles. This is my honest opinion. I like Luther's homely style (I speak only of his Latin) far better than I expected. It is not, nor does it profess to be, Ciceronian; but it is strong, masculine, and clear, and tells us just what we want to know. One never doubts his meaning for an instant. He was a man, and not an angel. I wish he had been less coarse. In more than half his disputes with Zuingle he was either wrong-headed or wrong. I do not like his stiff-neckedness soon after the Augsburg diet; and I think he put the infant protestant cause in the utmost peril. But he acted on principle; and I think Ranke well says, on some such occasion, that if his conduct was not prudent, it was great.

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During my confinement, I took to polemics as one does to cayenne pepper, by way of seasoning to the light matter

[1] *The Mission of the Comforter and other Sermons, with notes;* by Julius Charles Hare, was first published in 1846, in two volumes 8vo. In this edition *Note W.* (ii. pp. 696—878) contained the vindication of the character of Luther afterwards published as a separate work.

I had been gorging. I read Cureton's edition of the *Epistles of St Ignatius*[1] with very great pleasure; and his prefatory matter is, I think, excellent of its kind. Then I looked at the right orthodox and pompous review of Dr Wordsworth[2]. What a pity he should spoil his good scholarship by his mouthiness and hyperorthodoxy! Cureton, in his reply[3], has, I think, laid the Doctor sprawling in the mire. Dr Lee has also come out to do battle on the same side; but he is not a clear writer, and though he gives hard hits they are not well planted. But he has not yet done. To improve my orthodoxy I read at the same time two volumes of Gibbon, and I picked out again all he has to say on the early controversies and councils. What a miserable picture that history gives us of the Church of Christ after the Nicene Council! 1847. Æt. 62.

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You see by this long story that I have been industriously idle during my long and gloomy confinement. I have to thank the author of *Note W.* for setting me on Ranke's *History of the German Reformation.* I have carefully read the three volumes of Mrs Austin's translation. What a glorious history! how full, how rich, how wise, how honest! I shall never again endure the rounded periods and syllabub of Robertson. I seemed to be in a voyage through a new world of mind and matter as I went along, and I hardly allowed myself time for sleep till I had finished the three volumes....

There! I think by this time we must all have done breakfast, and in half an hour I must pack up my things and return to Cambridge from Hurstmonceaux, after my short but pleasant visit. In a day or two I hope to revisit my Museum. I have half a dozen great boxes to unpack, and I have an excellent naturalist hard at work arranging my

[1] *The Antient Syriac Version of the Epistles of Saint Ignatius.* By William Cureton, M.A. 8vo. Lond. 1845.

[2] An article in *The English Review* for December, 1845 (Vol. iv. pp. 309—353), by Chr. Wordsworth, D.D., afterwards Bishop of Lincoln.

[3] *Vindiciæ Ignatianæ.* By Rev. W. Cureton, 8vo. Lond. 1846.

1847. Æt. 62. organic remains. He is to remain a year with me, and before he has done I trust my Museum will be fair to look upon....

Give my kindest regards to your other and better half, and believe me your affectionate friend,

A. SEDGWICK.

Mrs Eaton and her husband, referred to in the above letter, were Sedgwick's college servants for many years. It was their son whose letters from the field of Aliwal interested him so much. Mrs Eaton is said to have been the heroine of the celebrated episode of the pound of tea. Her master, observing that his teacaddy emptied itself with inconceivable rapidity, bought a pound secretly, locked it in a drawer and filled his teapot from it. When the usual period for ordering a fresh supply came round, Mrs Eaton displayed the empty caddy, whereupon Sedgwick opened his drawer and exhibiting his packet still half-filled, exclaimed triumphantly: "Bless me! my pound has lasted longer than yours!"

Sunday Morning, *February* 7, 1847.

My dear Wodehouse,

I have just returned from a walk to the bottom of our bowling-green—I hope to dine in Hall—and to-morrow (should the weather-cock still point west) I mean to ride my horse; so you see I am now advancing, and I trust I shall have no back-reckonings. So much for myself....

I advise you to take the Archdeaconry[1] by all means. There are no duties of the office you may not do with a good conscience; and you *will* do them, if God spare your life, with a good conscience. The office may enable you to do the cause of honest scriptural truth much good—and your peculiar views about certain unfortunate passages in our Liturgy (in which I agree with you entirely) *will not*, and

[1] The Archdeaconry of Norfolk, offered by Bishop Stanley. The proposal to appoint a clergyman known to object to certain passages in the Prayer Book (see above, p. 20) aroused great opposition among the clergy. The Bishop was determined to persevere in his course, when "a legal difficulty was discovered, which practically precluded him from offering the Archdeaconry to any incumbent in his diocese." *Addresses and Charges of Edward Stanley, D.D.*, p. 65.

ought not to, interfere with your proper and energetic Archidiaconal duties. Let not good Evangelical men flinch, and refuse office. Now is the time for them to take the front rank, that the ultra high-church have gone over to the enemy. Julius Hare has some views like your own. He is a *low-churchman* according to the vulgar abuse of words. I should call him and you very *high churchmen*—men who are not content to bathe in tainted streams, but wish to steep themselves, soul and body, in the pure waters of life gushing from the fountain-head. Ordinances of men are, or may be, good things in their way; and they are necessary for diffusion of the waters of life, and for irrigation—all this is plain to common sense. Hare had some scruples, and stated them to his Bishop (Otter). 'The Bishop replied 'I can allow these objections to be of no weight, for my opinions on these points are just the same as your own. Therefore I again offer you the office and I hope you will take it.' Now this is your exact position, if I mistake not. Act like Julius Hare, and take the office. So now you have my opinion, and I hope all your objections will at once kick the beam.... 1847. Æt. 62.

To-morrow I must seek sermons in stones and go to my Museum, which I am putting in its last arrangement, so far, at least, as my own labours are concerned with it. I wish this work were over, and then I would emancipate myself from Geology, and set my house in order for the evening of life. Such are my day-dreams. Perhaps I may come over some Saturday, so as to return on Monday to my work. I want to have a peep at Norwich again. My nephew[1] is coming into the rooms opposite mine and in the same staircase. He is well and working hard: but his general health is not quite good, and he has the family failing of a weak stomach—a stomach desirous of doing work, but not doing it well. For hard Cambridge grinding, a good gizzard is next thing to a good brain; and were I a materialist (which I am not) I

[1] Richard Sedgwick, son of the Rev. John Sedgwick, Vicar of Dent. He had matriculated as a pensioner of Trinity College in November, 1846.

1847. Æt. 62. should say that the seat of the will was in the stomach, as the seat of benevolence is said to be in the bowels.

What wonderful days we live in! Parsons by the dozen turning blind Papists; honest Canons spiking their touch-holes, and crying *Nolo Archidiaconari* at the time they ought to be going off with a crack; men and women talking to one another at 100 miles distance by galvanized wires; Old England lighted with burning air; the land cut through by rails till it becomes a great gridiron; men and women doing every day what was once thought no better than a crazed dream, doubling up space and time and putting them in their side-pockets; new planets found as thick as peas; nerves laughed at, and pain driven out of the operating-room; some sleeping comfortably, some cutting jokes while you are lithotomizing them or chopping off their limbs (this I have not seen, but D.V. I hope to see it soon)—in short 'tis a strange time we live in! But is there no reverse to this picture? Yes! a sad and sorrowful reverse! our friends are dying around us; famine is stalking round the land; peace is but a calm before a tempest; sin and misery are doing their work of mischief; by God's judgment, the same kind of disease which has destroyed the daily bread of our Irish brethren, may, for aught we can tell, next year consume our daily bread by attacking the grain on which we live. And then what becomes of art and science and civilisation? Gold will not feed us; the heart of man will not beat by steam; but I will not dream of coming evil, I will hope for the best; and I do trust that there are good men yet in our land to make it an object of continued blessings, and that through us these blessings may be diffused to the farthest corners of the earth....

Ever, my dear Wodehouse, affectionately yours,

A. SEDGWICK.

Among other books read by Sedgwick during this long seclusion was Arthur Stanley's *Sermons and Essays on the Apostolical Age.* Affection for the author, as much as interest

on the subject, no doubt determined the care he bestowed upon it. The result was recorded in a long and detailed criticism, forwarded, as soon as written, to the Palace at Norwich. "I have looked at your Commentary," wrote Miss Stanley, "and seen many a gentle slap which will do the Author good for years to come; in his name let me thank you, for I know he will be grateful to you, if it was only that you should have thought it worth your while to spend 'a hard day's work' upon it[1]." The author's own sentiments are recorded in the following letter: 1847. Æt. 62.

From Rev. A. P. Stanley.

PALACE, NORWICH, *4th August*, 1848.

My dear Professor,

Better late than never, but certainly better after having carefully used them than before having read them, I return my most cordial thanks for your long MS. notes on my Sermons. For the last few days, at such odd times as I could command, I have been at my book on one side the table, and Mary reading your notes on the other side; and now that they are finished, and their results duly recorded in the margin of the Sermons, the first duty as well as pleasure of the Author is to express to the Critic how much he and his book are indebted for the kindness and care with which it has been read, and for the instruction—and he must not forget adding the amusement—which the Commentary has furnished.

All the remarks have been well attended to—most of them have been followed—as you would see if you were to glance over the corrected copy. For one huge mass of *corrigenda*—that of the misreferences, I have no excuse to offer—nothing but apologies—and the ignorance of a young author who relied too much on the sagacity of the printer. I trust that these are now all rectified. The metaphors and the sentences which you have so successfully pulled to pieces, have most of them had their limbs reset, and are now set on their legs again. Some few were found to be incurable. The graver matters of censure have all been retouched; and altogether, if the Author is ever able to present you with a Second Edition, I trust that it will cost you less trouble, and give you fewer shocks, than the first. The only point, I think, where I have entirely resisted your solicitations is in the refusal to go at length into any new matter. Once more accept my hearty thanks for this real boon—the greatest boon that an author can have—the criticism of a Reviewer who is kind enough to read, and critical enough to censure, and sagacious enough to improve, all that he has written.

All this benefit has been turned to account at this particular moment, not because I expect a Second Edition, but because I hope

[1] From Miss Stanley, 15 February, 1848.

1847. Æt. 62. to go to Jerusalem in November, and wished to wipe off old scores at home. Have you any commissions to the rocks of Mount Sinai, or Moriah, or Carmel? Seriously, any suggestions which you can give me about those parts will be most thankfully received.

Ever yours truly

A. P. STANLEY.

The arrangement of the geological collections, alluded to in two of the last letters, had now made considerable progress. The vast accumulation of material, due in great measure to Sedgwick's own energy as a collector during twenty years of hard work, had been unpacked, sorted, and to some extent arranged. This task was commenced, as already noted, by Mr Ansted, under Sedgwick's direction, and their joint labours brought the collection "into approximate order." He was succeeded by Mr Salter, the young geologist who had accompanied Sedgwick to Wales in 1842 and 1843; but, before long, he was drawn away from Cambridge by an appointment on the Geological Survey of England. Sedgwick next secured the services of Mr Frederick McCoy—a naturalist who had already performed similar duties in Dublin. He came to Cambridge in 1846, and for at least four years devoted himself "uninterruptedly and with unflinching zeal" to the determination and arrangement of "the whole series of British and Foreign Fossils" in the Museum. The value of his work is known to the world by numerous scientific papers, and by the *Description of the British Palæozoic Fossils in the Geological Museum of the University of Cambridge*, first issued in parts, and finally published in a complete form, with a valuable preface by Sedgwick, in 1855.

McCoy's energy soon produced visible effects. In a year's time Sedgwick could write: "My Museum is coming out gloriously. It will soon be the most instructive and useful Museum in England, thanks mainly to McCoy's enormous labours. He works like a Turk"[1]. No wonder that he looked on these collections with parental pride, and watched McCoy's work upon them much as a father watches the education

[1] To R. L. Murchison, 5 February, 1848.

of his children. His energy and influence had brought them together; his liberality was now providing for their arrangement. The cost of this fell almost entirely upon Sedgwick. Dr Woodward's trustees made two small grants to Mr Ansted, and £100 to Mr McCoy during his first year of office; but the surplus in their hands had been exhausted by defraying the cost of the fittings for the new building, and it was intimated to Sedgwick that no further grants could be expected from that source. He had already paid Mr Salter's salary; and during the whole of Mr McCoy's residence in Cambridge he regularly paid him £200 a year out of his private income[1]. 1847. Æt. 62.

At the beginning of February in this year the University was startled by the news of the sudden death of the Chancellor, the Duke of Northumberland. Dr Whewell happened to be in London, so that the conduct of affairs in Trinity College devolved to a considerable extent on Sedgwick. It at once occurred to him that Prince Albert should be invited to accept the vacant office; and it is probable that this expression of opinion on his part did much to influence the conduct of the other resident Fellows, who, as a general rule, supported the Prince. At the same time neither residents nor non-residents were unanimous; and though Sedgwick espoused the Prince's cause with hearty conviction, he was obliged, as Vice-Master, to observe, to some degree, an official neutrality. He appears to have discharged his public duties with admirable judgment. On the first day of polling (25 February), there was of course a large party in hall. Sedgwick, Mr Romilly tells us, "spoke excellently, and in a kind way for both sides. We were too large a party (above 240) to go upstairs [to the Combination Room]. He gave the non-resident voters, and Earl Nelson, London chairman of Earl Powis' Committee, returned thanks. He proposed Sedgwick's health, which was received with great applause. Sedgwick made an excellent answer." On

[1] *Report of Cambridge University Commission* 1852, Evidence, p. 118. Letter from Dr Philpott, Vice-Chancellor, 4 December, 1846.

1847. Æt. 62. the following day he again presided, and "spoke briefly and well;" and on the third day, when the result of the poll had been declared, he made a speech in the Combination Room, and presided for an hour after the departure of the Master.

This exciting contest was the beginning of a closer connexion between Sedgwick and the Prince, who soon after the election invited him to "undertake the duties of his Secretary at Cambridge, as Chancellor of the University"[1]—a proposal which was accepted without a moment's hesitation. Those who are jealous of Sedgwick's scientific reputation will regret this decision. It entailed upon him new duties and new responsibilities, of the extent of which he had no idea when he accepted the Prince's offer—and it put geology, viewed as the serious pursuit of his life, still farther into the background. On the other hand, it was hardly to be expected that he would decline. He was animated by a chivalrous loyalty to the throne and the person of the Queen; and it gave him infinite pleasure, in the evening of his life, to feel that he could in any way make himself of use to her husband. He performed his duties zealously, but without either subserviency or affectation; and in all his relations with the Court he maintained the same simplicity of manner, and the same plainness of speech, by which his whole life had been distinguished.

To Miss Fanny Hicks. CAMBRIDGE, *March 4th*, 1847.

"...If you ask me what I am doing I reply that I am grumbling—that I have a geological paper in the press[2], for I sent the MS. up to Town yesterday for the printer, and that I am preparing a new edition of my *Discourse on the studies of Cambridge*, with additional notes and corrections &c. (I worked five hours at it last night before I retired to roost)

[1] From Colonel Phipps, 6 April, 1847. It is usual for the Chancellor to select some distinguished resident Member of the Senate, to keep him informed of what is going forward, to answer questions arising out of his correspondence, and occasionally to write letters in his name.

[2] The paper on *The Classification of the Fossiliferous Slates of North Wales*, read 16 December, 1846; a supplement to the paper read 12 March, 1845 (see above, p. 80).

—and that I am butchered by letter writing. We chanted the pæan of victory on Saturday. Early on Sunday morning I drove over to Great Barford near Bedford to take leave of Mr Clarkson[1], one of my oldest and best friends, who is on his death-bed. It was indeed a change from a house of feasting to a house of mourning, and I felt in my heart that the latter was better for me than the former. Mr Clarkson has been a consistent and pious man, and fears not death, because he knows in whom he trusts in his hour of trial. His wife is one of the sweetest and wisest and purest women I ever have had the happiness of knowing. She is a pattern of Christian patience, and shews by her whole bearing what it is to be a Christian in our times of greatest bereavement...." 1847. Æt. 62.

To Miss Isabella Sedgwick.

YORK HOUSE, BATH,
Easter Tuesday, [6 *April*], 1847.

"...I came to this place last Saturday evening. After the influenza left me I fell into low languid spirits. My old enemy rheumatic gout then began to burrow among my limbs and took away my sleep. So I resolved (under medical advice) to try these waters, and give myself rest and exercise in the open air. Rest and exercise mean the same thing with me....

Pray write soon, and fill a long letter with all manner of fireside news. How are the poor people? How are your schools going on? How flourish the infant schools? What are you reading? How goes on German? What music are you labouring at?

I wish Tate's *Continuous Life of St Paul*[2] were more pleasantly written, but it is excellent notwithstanding. I should wish you to master it, so as to have a clear view of St Paul's life and labours in true historical order, and it would be a good exercise to read his Epistles through once every

[1] Rev. John Clarkson, B.A. 1805, afterwards Fellow of Trinity College.

[2] *The Horæ Paulinæ of William Paley D.D. carried out and illustrated in a continuous history of the Apostolic Labours and Writings of St Paul.* By James Tate, M.A. 8vo. Lond. 1840.

1847. Æt. 62. year in true historical order and continuously, ever bearing in mind that the Epistles, though in a certain view historical, are also devotional and doctrinal; and though drawn forth by local occasions, contain truths for all ages and all occasions, and can neither be felt nor understood unless read in a devotional spirit....

I have been interrupted nearly two hours, very pleasantly, by Mr Wordsworth. I hope to spend the greater part of to-morrow morning in his company.

I must off to the bath-house. So good morning...."

To Canon Wodehouse.

YORK HOUSE, BATH, *April* 9, 1847.

"...Since I reached Bath I have finished Carus' *Life of Simeon*.[1] It is a very remarkable book, and likely to do much good. 'Tis the history of a devout and faithful man, who stuck to his principles through evil report and good report, and ended by gaining the love and good-will of all men about him. Pray read it soon. There are in it several letters on cases of conscience not very different from your own. Most of good old Simeon's views are wise and sound. And what a consistent man he was after he was called to the ministry! He never flinched. He had many small faults, but he knew them, and was humble under them, and after all they were motes in the beam of light, which only serve to show the track of the light more plainly to the senses. What a grand Christian death! And what a fine, eloquent, and Christian summary by the Bishop of Calcutta![2]..."

During the whole of the Easter term of 1847 the University was occupied with preparations for the Public Commencement, at which the new Chancellor was to preside, in the presence of the Queen. It was not long before Sedgwick had to enter upon his duties as secre-

[1] *Memoirs of the Life of the Rev. Charles Simeon, M.A.* Edited by the Rev. W. Carus, M.A. 8vo. Lond. 1847.

[2] *Recollections of the Rev. Charles Simeon*, by the Right Rev. Daniel Wilson, D.D. Lord Bishop of Calcutta, dated "Calcutta, 1837," appended to the *Memoirs*.

tary. Early in May we find him attending the Prince in London; discussing details of the ceremony; writing letters about honorary degrees—and the like. The result of these preliminary labours is described in the next letter. 1847. Æt. 62.

To Miss Isabella Sedgwick.

July 12, 1847.

"I have lost all reckoning, and I know not how long it is since I last wrote to you. From Oxford I ordered papers to be forwarded to Dent, so you will have seen an account of all our doings there. The meeting went off admirably; but I remained only till Monday evening (the 28th) as I thought I might be wanted at Cambridge. One day, the Grand Duke of Saxe Weimar and Prince Albert came over, and went round to the different sections. I was obliged to go in their suite, as the Prince's Secretary; and a very pleasant break it was in the hard work of the meeting, as it enabled me to witness the Prince's reception, to visit all the different section-rooms, and to partake of a magnificent lunch given by the Master of Exeter College to the Royal Party, and to about 150 Members of the Association who came by cards of invitation. Every one was in high spirits; and this Royal visit, without interrupting any work, gave an *éclat* to the meeting. They really were in great luck. The weather was glorious and not too hot; and Oxford (I will show it you someday) looked magnificent. When the Royal visitors entered the Physical and Mathematical Section, the great French mathematician Le Verrier was on his legs discussing the orbit of a comet. When he sat down, Airy, Challis, Herschel, Adams, Sir W. Hamilton, and Sir David Brewster took part in a short discussion. In all Europe it would not have been possible to bring greater astronomical names together. This was not got up but mere accident, for they took their chance, and interrupted no business. In the geological section they were also in great luck. A Swedish nobleman was exhibiting some physical maps of Scandinavia,

1847. Æt. 62. and a Danish Professor was expounding his views about the changes of sea-level all along the Danish and Swedish coasts, manifested by deposits of modern sea-shells at different levels on the cliffs. This was followed by a short discussion, in which several of us took a part....

Well! on Monday evening about eight I left Oxford, and arrived in London in two hours by the train. Early on Tuesday the 29th I ran down to Cambridge, and began my work in my Museum, putting everything in order for the reception of the Installation company. Next day (the 30th) I meant to employ in the same manner, but I was called away by the Dean of Ely to meet my old friend Sir Harry Smith. I could not resist the temptation. So next morning (the 30th) I went to the station, and there I met the hero and his family party, and joined them in a saloon fitted up by the directors for their special reception. The entry into Ely was triumphant. Thousands were assembled, with flags, branches of laurel, and joyful, anxious faces. The Dean had provided me a horse, so I joined the cavalcade. After going through triumphal arches, and I know not what, preceded by a regimental band of music—Sir Harry mounted on the Arabian charger he rode at the battle of Aliwal, and greeted by lusty shouts from thousands—we all turned in to a magnificent lunch. We then went on to Whittlesea—a similar triumphant entry—I should think not less than 10,000 men to greet the arrival of the hero at his native town. He was much affected, and I saw tears roll down his weather-beaten, but fine, face, as he passed the house where his father and mother once lived. I roosted with James Ainger, and the next day (July 1) we had a most hearty dinner in honour of Sir Harry, at which more than 300 sat down. I was glad to see Whittlesea once again under such joyful circumstances....On the following day (July 2) I returned to Cambridge; and *did hope* to have two quiet days before the Installation; but the evening post summoned the Vice-Chancellor and myself to London to have a long talk with the Prince about matters of Academic

form—degrees etc. etc. So we went up early on Saturday, and were several hours in Buckingham Palace talking over the business of the Installation. During the morning I had eight letters to write, so I really *was* acting at length as Secretary to the Chancellor. I told him Sir Harry Smith was coming on Tuesday. He said that the Queen would wish him to be there on Monday, to take an honorary degree. So I fired a shot to Whittlesea, not doubting that I should bring the hero down in time; for the Queen's wishes are, you know, a soldier's law. I returned to Cambridge late on Saturday. On Sunday about 5 a.m. I crept to my Museum to see that my orders had been executed in my absence. Better day better deed! there was no help for it. I then rested, for I was half dead with fatigue. The churches were crowded to suffocation. After evening Chapel I was rejoiced to find Sir H. Smith waiting at my rooms; he took my bed, and I took Dick's. My inner room was cut off (as at the former Royal visit), and became the Queen's wardrobe. This was inconvenient to me; but there was no help for it. I spent a delightful quiet evening with my hearty and gallant friend. We took a turn in the walks, but he was in plain clothes, and was not known by the multitude.. 1847. Æt. 62.

Next day (Monday the 5th) began the great hurly-burly. Everything went off well. On Monday John told me that more than 100 people came to lunch at my rooms, no doubt partly drawn there in the hope of meeting Harry Smith, who, (after the Duke of Wellington), was the most popular of all the visitors. I could not be there myself, except at very short intervals, as I was officially in constant attendance on the Prince. This gave me an excellent place in the Senate House, where my post was just behind him. The raised platform was crowded,—but in the area of the Senate House the M.A.'s were literally almost squeezed to death. There was a grand cheer on Monday morning when Sir H. Smith had his degree. After the honorary degrees were over the Chancellor went to visit several colleges, and he told me that in all these visits I

1847. Æt. 62. must go with him as his official attendant. So I found myself before long in an open carriage with the Prince, and the Duke of Wellington sitting opposite. This was a rather novel position, but I found it quite comfortable. The Vice-Chancellor that day had a dinner; the Queen attended—to a party of about 60. I presided in Trin. Coll. Hall over a party of more than 300; and a right merry party it was. Sir Harry Smith was at my right hand, as the Vice-Master's guest; and I think 20 noblemen were present; and among the distinguished foreigners were Le Verrier and Struvé, whose names you must have heard. If we had not so much dignity as the Vice-Chancellor, we had more numbers and more fun. In the evening a concert. The Queen attended, almost covered with diamonds. The Senate House was not by any means so full as in the morning. Concert over, a pleasant talk in my own rooms, where I found Le Verrier, Struvé[1], and Sir Roderick Murchison[2] all smoking cigars.

On Tuesday (see the papers) we had the Installation ode performed in full chorus, and of all the cheers I ever heard, the cheers after *God save the Queen* in full chorus accompanied and joined by a thousand voices, were the most enthusiastic. Le Verrier was quite overcome, and went out and wept. I saw him just after, and he said he was ashamed of himself, but he could not resist so noble an enthusiasm: "j'ai pleuré

[1] Friedrich Georg Wilhelm von Struvé, director of the observatory at Pulkowa, near St Petersburgh.

[2] Murchison had become a member of Trinity College, probably through Sedgwick's influence, and had been admitted to the honorary degree of Master of Arts. On getting home he wrote to Sedgwick a characteristic letter: "I fled without shaking you by the hand and taking leave: but I cannot embark for the continent without thanking you from the bottom of my heart for your kind and friendly reception at *our* College of Trinity. Little did I think when I first began to hammer rocks with you, that I should one day be admitted by the Prince Consort your Chancellor, as one of the noble College of Trinity, in which you have been so long beloved. Nothing, I assure you, has given me greater satisfaction than the glorious days I have just passed with you, enhanced as the pleasure has been by being admitted in company with the gallant and able soldier Sir Harry Smith, your old chum....I think that like myself you wear best under excitement, for I rejoiced to see how well you looked at Cambridge."

comme un enfant." After we left the Senate House, the Prince again went round to some of the colleges accompanied by his Secretary—a handsome young man of your acquaintance, is he not? The dinner in our Hall was splendid. As Vice-Master, I had to sit at the Queen's table, but the paper puts me at the wrong end, and the persons are not in right order. Of course the Master was in the centre—the Queen on his right and the Prince on his left. I sat at one end, in my usual seat; on my right were the Duke of Wellington and Lady Hardwicke, on my left Lord Fortescue and the Marchioness of Exeter. So I think your uncle had no reason to complain of his company. After dinner there was a drawing-room. After being presented the Prince's Equerry told me I must not go out, but remain as one of the Prince's suite. I ought to have known this before; but I continually wanted drilling. When all was over I had the honour of a short conversation with the Queen. She told me that she was delighted with her reception, and wished to express herself in the strongest terms. I told her that the value of our cheers was this: that they were given in all loyalty, and with the whole heart. 1847. Æt. 62.

Wednesday was our great public breakfast, attended I think, by more than 4000 persons. The Queen went away early, but the dancing was continued to a pretty late hour. A few drops of rain fell about the time of the Queen's departure, but the evening was glorious. There was an enormous tent erected in St John's walks for the dancers. It was more than 300 feet long. The breakfast was in our cloisters, and a bridge connected the Trinity and St John's walks. I saw Fanny Hicks dancing away right merrily. Next morning (Thursday) the Corporation brought an address to Sir Harry Smith, to which he read them an answer. Soon afterwards he went away. I then went round the colleges with Dr and Mrs Buckland and their daughter, and dined with Mr Hopkins, where I again met the same party. On Friday I was fairly done; hardly able to drag one foot after another...."

1847. Æt. 62.

To Miss Kate Malcolm.

DENT near KENDAL,
October 15th, 1847.

My dear Kate,

Your long kind letter reached me at Norwich in the latter part of September. I wished to answer it at the moment of its welcome appearance, but my house was full of company, and I had no leisure; and the moment my residence was over I had to run to Cambridge to take part in the Fellowship Examination. That troublesome business over (and it nearly put out my eyes) I ran down to this place where I first saw the light. Two days I have devoted to the genius of Indolence—the third I am giving to those whom I love, and who are far away. My dear friend Kate must surely be of the number. Thanks for your picture; accept my heartfelt congratulations on your restoration to health and joyous looks. May God long make you healthy, happy, and the joy of your friends! The little drawing must be a good likeness, and assuredly it brings into my mind's eye the image of a merry, skipping, blue-eyed child with clustering locks, whom I first saw in the drawing-room of Hyde Hall[1]. Your letter I read with great interest; and while I read it I fancied that I saw you all, and heard you all, and that I was living with you; so let me thank you for it, and ask you to write again *very soon*—to tell me all about the reforming Pope—all about Lady Malcolm and your sisters—common fireside gossip—the more the better—how many Cardinals have made love to your sister Olympia—whether she is to convert the Cardinals, or the Cardinals are to convert her—etc. etc. etc. All these things I ask you to tell me, and to send your answer to Cambridge; for to my den in Trinity College I hope to return before many days are over, and then to begin my annual course of lectures, and to be once more a kind of College fixture. So now I must write about myself, as in truth I have little else to write about.

[1] See above, Vol. I., p. 283.

During three months of winter I was almost confined to my fireside (and part of the time to my bedroom) by an attack of influenza. As soon as the influenza left me the rheumatic gout took its place; so I went and tried to boil the fiend out of my bones in the hot springs of Bath, where I remained during the month of April. The treatment did me some good, and in May I was much better; but before the end of that month my nephew[1] became very dangerously ill. For better air I removed his bed to my dining-room; his mother came to nurse him and had also a bed in my College chambers, which were thus converted into a hospital. I had, however, the happiness of seeing my nephew recover; and during a part of the month of June I accompanied them to the seaside, where the recovery of poor Dick became almost complete[2]...Before the end of July I was obliged to take up my Residence at Norwich to meet the Archæological Institute, who this year held their annual week's meeting at that city. On the first of August began my cathedral duties, and lasted two months. I had two nieces with me—merry lasses and good horsewomen, and we were excellently mounted. In addition to the daily cathedral services I this year undertook the chaplaincy of the County Hospital for the two months of my Residence. They have prayers twice a week, and prayers and a sermon on Sundays; so that on Sundays I had to attend three full services. In short I became one of the *working clergy*. How much I should delight to see you scampering with my niece over the heaths of Norfolk, and now and then turning round to laugh at my clumsy horsemanship. When are you to pay me your promised visit? We had Jenny Lind at Norwich about the end of my Residence. She drove us all mad—at least sober unmusical people thought so. But we thought ourselves quite in our senses, though we were led by the ears.

1847. Æt. 62.

[1] Richard Sedgwick, son of Rev. John Sedgwick, had been admitted a pensioner of Trinity College, in October, 1846 (see above, p. 115).

[2] The omitted passage contains an account of the Public Commencement.

1847. Æt. 62. The singing Jenny was an inmate of the Palace, and is a most charming and interesting person in private life, and of most spotless purity of conduct, spite of the atmosphere in which she has lived. You know not my friends and relations here. You know not my niece Isabella, who is to me as a daughter. You know not *Zoe*[1] (the daughter of *Hong-soo*, perhaps I don't spell his name right) who is the picture of her mother, and quite as wild. Said *Zoe* was born at the kennel of Windsor Castle and now lives here. She shakes her tail, and sends her love to you, and I send mine to Lady Malcolm, your sister, and yourself.

Affectionately yours,

A. SEDGWICK.

To Miss Fanny Hicks.

CAMBRIDGE, *October 30th*, 1847.

"...I had a quiet visit at Dent, and was very happy there. I preached four times extempore, having no sermons with me—no 'dried tongues,' as old Rowland Hill used to call them. On Monday I left Dent. I saw the Cumberland hills white with snow as I posted over the hills between Dent and Kendal. At a quarter past two I entered the express train, and at twenty minutes before eleven I was safely set down at Euston Square! What a charming change since I was an undergraduate, when I used to be two nights out on my way from home to Cambridge...."

To Miss Isabella Sedgwick.

CAMBRIDGE, *October 27th*, 1847.

"...Alas! forty-three long years are gone since I came up a freshman. Would that I could show more fruit for so long a trust! I seem to myself to have led a useless life, and I am certain that I have not been a good economist of my own happiness. But I am never in good spirits for a day or two after my return to College. 'Tis after all but a cold home.

[1] A Chinese dog given to Sedgwick by Miss Malcolm's brother.

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And my health is now not equal to my daily academic tasks, for I never entirely shake off the miserable gouty symptoms. On Monday my lectures are, I hope, to begin; and I am to give them five days a week. On the whole the excitement of them does me good...."

In November of this year a petition against the admission of Jews to Parliament was offered to the Senate. Sedgwick gave the first non-placet in one of the two houses into which the Senate was then divided, Dr Lamb in the other. Their efforts, however, were unsuccessful. The Grace to affix the University Seal to the petition was carried by fifty votes to twenty-five in the former, and by twenty-eight to fourteen in the latter.

Early in December Sedgwick was honoured by the Queen with an invitation to visit her at Osborne. "The Prince," wrote Colonel Phipps, "thinks a little change of air will do you good;" and it was further intimated that advice on the chances of obtaining good water by boring an artesian well would be acceptable.

To Miss Isabella Sedgwick.

OSBORNE, ISLE OF WIGHT,
Tuesday, December 14th, 1847.

My dear Isabella,

I doubt not you will be glad to hear how I am passing my time in the Queen's country-house; and therefore I will begin from the hour of my arrival here. I have not yet seen either Her Majesty or the Prince; but in about two hours I am to join the small family party at dinner. Meanwhile, I will begin my little journal. At eleven this morning we—that is I and my servant John—started from the London terminus of the Southampton line; and in less than three hours were at Gosport. The day was charming; and, spite of the absent leaves, the view down the channel, as we approached Portsmouth, was delightful. A boat was waiting to convey us to the Queen's beautiful steamer

1847. Æt. 62. the Fairy, and in a few minutes more we were on our way across the channel to Osborne. I found Colonel Phipps and Colonel Grey (both of whom I knew before) waiting for us at the landing-place under the park. There were also carriages waiting. John went in one of them to look after the baggage. I walked to the house with the two Colonels; and we were soon after joined by General Bowles. The sun was going down gloriously, and the sky was beautiful. After eating some lunch in General Bowles' room, I took a stroll by moonlight. The Queen only purchased Osborne a few years since, and since then has made great improvements. Two very large square buildings are already nearly finished; and they are to be connected by a kind of covered cloister. One of them is backed by a lofty tower bearing the royal standard; and near this tower appear to be the state apartments. The old house is still standing, but is to come down so soon as the second great square building is finished for company. I have myself an excellent room in the old building. When the house is finished it will cut a regal figure; but at present it is in a very chaotic state, though the state-rooms are in excellent order, at least so I am informed. On entering the house I was amused at seeing carts, toys, and other signs of young children, scattered about the hall in considerable confusion. Human nature is the same in whatever rank, and with whatever garb it may be covered. So far as I have seen, every thing here has a peaceful, happy, domestic look. There! I have actually written three pages and a half about nothing. So now I must dress for dinner, and see how I can behave myself at a Queen's table.

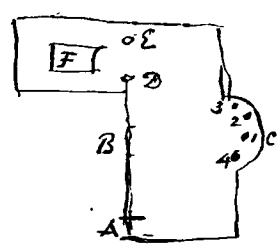
Wednesday morning. The sun is not risen; but I have light enough to see across the channel to Portsmouth, and it will every moment be lighter. The morning is beautiful, and the scenery from the great terrace before the house such as makes the heart dance. I always delighted in the Isle of Wight; and many are the pleasant, and sometimes toilsome days I

have spent in it. But to business. We assembled last night at eight. The party consisted of the regular household, viz. the Queen's two military attendants, General Bowles and Colonel Grey (Lord Grey's brother); the Prince's Equerry Colonel Bouverie; the Prince's two Secretaries, Colonel Phipps and a foreign gentleman; and in addition to these were three visitors—Lord and Lady Normanby, and your uncle. I declare I have not learnt good manners by coming here; for I am forgetting the Ladies of the Household, viz. the Lady in waiting, Lady Canning; and the Honorable Miss Kerr, the Maid of Honour—by the way a very pretty young lassie. The Queen in public life is the most punctual of womankind; but here, in private, she is more irregular. She drives about the grounds in all weathers and sometimes returns late. Last night she and the Prince did not come to the drawing room till half-past eight, when we instantly filed off for dinner. No form or ceremony was used—the only distinction being that the Prince led the Queen out first, and the others followed. The little Maid of Honour fell to my share; but we were soon parted, for the Queen commanded me to sit opposite to her and to say grace. Next me was the Marchioness of Normanby—a lady whom I have often met before. Her husband, whom I knew well at Trinity College when he was an undergraduate, sat at the Queen's right hand. The Prince sat on the Queen's left. The two military officers of the Household (General Bowles and Colonel Grey) sat at the top and bottom of the table. Very great people you know always sit at the middle of the table. We had a very good, but not an ostentatious, dinner. The plate was massy and abundant, but in no other respect remarkable. The conversation was general and cheerful, without the shadow of any formality either seen or felt. While the Queen remained, I did remark that they avoided talking across the table; but persons addressed those near them without any restraint whatsoever; and I am sure my neighbour Lady Normanby was both chatty and cheerful; and we talked over

1847. Æt. 62.

1847. Æt. 62. all the North of England, Whitby, Scarborough, etc. and she pressed me to come and see them when they next went to their house near Whitby, promising me all sorts of underground treasures. The Queen went away early, the ladies following her out of the dining-room. After Her Majesty had gone, the conversation became a little more general, and perhaps a little more noisy; but before that we had by no means been a silent party; quite the contrary. Infirmities of the senses were the subject of discussion. Many cases were mentioned. I mentioned one of old Dalton the chemist, who mounted, at Oxford, a Doctor's scarlet gown; and being laughed at for his splendid uniform, replied: 'What its colour may be to you I know not; but to my eyes the colour is just the same with that of the leaves of the neighbouring trees.' The discussion ended by an attempt made by one or two of the party (and not always with success) to walk, with closed eyes, the whole length of the dining-room without deviating to right or left. The Prince joined the ladies about a quarter of an hour before the other gentlemen. This is the custom when they are what they call in private. He and the Queen sing together before the ladies in waiting; but the Queen does not like to sing before the gentlemen. Coffee is handed round during this interval. We then all went to the drawing-room. There was no formality. The Queen and the ladies were sitting round the fire, and the conversation was general. The gentlemen generally stood, but not always, the party being private and not formal. About five minutes after I entered, the Queen rose from her chair and came across the room to speak to me. She coloured deeply when she first began to speak; and I am certain that, by nature, she is rather shy and bashful, though compelled by her exalted station to live in public. I thought so before, when I went with the Duke of Sussex and the Council of the Royal Society to present an address to her, not long after she came to the Throne. She was very kind and gracious, enquired about my health, hoped I had not such restless nights as I

once had etc. etc.; alluded to the pleasures of her Cambridge visit; and then asked me many questions about the Isle of Wight, its internal structure, the chances of obtaining water by a deep boring, for the water they have at Osborne is not of the first quality, etc. etc. In talking with a Sovereign, the rule of good breeding is, not to lead the conversation; but when the Queen had once given the lead, I might go on at my discretion, taking care not to say too much. I hope I did not offend—but I think I must have a good stock of assurance; for I was as much at my ease as if I had been talking with yourself; and I am sure there was nothing more oppressive in Her Majesty's manner than there is in yours. This conversation lasted about a quarter of an hour. The Queen then returned to her seat; and most of the gentlemen went to the part of the large drawing-room where there is a billiard-table. The Prince and Colonel Phipps had a well contested game. Prince Albert was not only cheerful but mirthful and joyous. The game over, the Queen took his arm; and they walked off exactly at eleven. We all followed soon after; and the housemaid had a basin of water-gruel and a foot-bath ready for me in my bed-room. I ordered these things as a remedy against a rising cold, and this morning I am nearly well. The drawing-room is very beautiful, and of the following shape: *A* Entrance. *B* Fireplace. *C* large bay window. *D*. *E* Two columns and two marble statues. *F*. Billiard table. The furniture is beautiful but not ostentatious; the curtains of yellow silk damask. In the recess for the great window (*C*) are four beautiful small granite pillars, surmounted by four statues of the Queen's four oldest children in the costume of the four seasons. 1. Prince of Wales as Winter. 2. Princess Royal as Summer. 3. Prince Alfred as Autumn. 4. Little



1847. Æt. 62.

1847. Æt. 62. Alice as spring. These statues are beautifully executed in white marble, and are said to be excellent likenesses; but I have not yet seen the children. I must now go and finish my breakfast; but I need not trouble you about it, as the Queen and Prince will not be there. So my journal is so far up to the mark, and full enough, of all conscience. Is it not?

Wednesday, 7 P.M. Before I sit down to dress for dinner let me again resume my journal. After breakfast with the Royal Household I took a stroll in the park. Lord and Lady Normanby went away; so I was left the only visitor. The Prince came about twelve and joined me in the park; showed me some quarries, and then asked me to his private room or study. We there had a rather long discussion on the Geological Map of the Island, and discussed the question of finding water by boring, &c. &c. His Royal Highness then entered at great length on the studies of the University, and has, I am certain, the deepest interest in the well-being of Cambridge. He is a well-read man, whose mind is admirably cultivated in many departments of learning little studied by our young noblemen, and he is often undervalued by stupid persons who have no true conception of his real character, and no power of estimating his sound and very extensive knowledge. He is called proud and formal. I have not found him so; but on the contrary, kind, frank, and courteous. Our discussions lasted nearly two hours. I then went and joined the Household at lunch. A drizzling rain prevented me from walking to Cowes. So I sat down in my room and read reviews and newspapers. Colonel Phipps, about three, tapped at my door, and told me the Prince wanted me. The children were with him, and he kindly offered to introduce me to them. So I put on my coat and went across to the state-rooms on this charming errand. Five finer and more healthy children I never saw. The youngest, Princess Helena, was in the arms, though I am told able to run about the nursery. The other four came and held out their little hands. To Prince Alfred (a

very fine merry boy, who asked me to tell him a story) I told the story of old Mrs Woodcock lost under the snow. The Prince of Wales is a fine sharp-looking boy, but old enough to be a little shy. His sister the Princess Royal is not a bit shy, but laughed and talked away with great glee. Her father had told her I knew a great deal about beautiful stones; so she asked me to look at her collection of stones and shells she had picked up in Scotland, about which she was quite communicative. I must now think of dressing for dinner. So adieu for the present. 1847. Æt. 62.

Thursday morning. I observed yesterday a piece of formality which had escaped me before. We all assemble in the drawing-room before the Queen comes. A servant in waiting announces her approach. All the ladies and gentlemen of the Household then move to the door, bow rather low, and escort the Queen into the room. She bows to the company, and instantly after takes the Prince's arm and walks off to dinner. There never is any waiting; for she orders dinner to be put on the table a certain number of minutes after she begins to dress; and she only allows herself ten minutes (and seldom takes more than a quarter of an hour) for dressing! There is an example for you! of course she is well helped in this operation. Yesterday she wore a kind of dark green silk, with a great profusion of beautiful lace, but with no diamonds. The day before she had the order of the Garter, and diamond bracelets. Both days she wore a pretty wreath of flowers about her head. The gentlemen who have orders wear them; but in other respects dress like gentlemen in a private party—with one exception however. They wear not loose trousers at Court, but tight pantaloons or *shorts*; of course I had, as a clergyman, a pair of shorts. I wish this custom had continued in society. For more than twenty years after I came to College men commonly appeared at dinner in shorts and silks. Another thing I forgot to remark before. A dish of well-toasted oat-cake is handed round with the cheese. I believe the Queen likes it; and

1847. Æt. 62. I partook largely of it both days I had the honour of dining with her. The conversation yesterday was more general than the day before. As I was the only visitor, and acting as chaplain, it was considered a family party of the Queen's Household. The weather, the news of the day, and other profound subjects were discussed in order. The merits of the dishes had their share of comment. When the cloth was removed the Prince began to talk of Alpine scenery, glaciers, etc., and led to some geological questions in which I was called on to give my opinion. From glaciers we travelled naturally to Alpine snows. This introduced the story of Mrs Woodcock who lived eight days under the snow near Cambridge[1]. The Prince said the children had been talking of it to the Queen, who now wished to hear of it from my own lips. She smiled, and said she really wished to know the exact truth of so remarkable a story. So I told old Mrs Woodcock's tale at full length! This was followed by a string of wonderful stories, after which Her Majesty rose with the ladies and left the room. The Prince soon afterwards followed. We remained and had coffee in the dining-room. In the drawing-room tea is handed round; and just before the Queen retires, negus, lemonade, and some other nice things of which I never tasted. Her rule is (and she very seldom breaks her rule) to retire about a quarter before eleven. Dinner and drawing-room take therefore only about two hours and a half from her day. And her day is a long one, as she is an early riser.

[1] Mrs Woodcock was riding home from Cambridge to Impington, between six and seven o'clock in the evening, 2 February, 1799, when her horse took fright at a meteor (as was supposed) and became unmanageable. She dismounted, and tried to lead him; but in attempting to do so she wandered for some distance out of the road across the then unenclosed fields. At last, thoroughly tired out, she sat down under a hedge, where she was soon overwhelmed by drifting snow. She was not discovered until about half-past twelve o'clock on Sunday, 10 February. She died 13 July following, aged 42. A small column marks the spot, near Impington, where she was overwhelmed. *An Account of the providential preservation of Elizabeth Woodcock.* By Tho. Verney Okes, surgeon, 8vo. Camb. 1799. Cooper's *Annals*, iv. 463.

1847. Æt. 62.

The recess in the drawing-room with the billiard-table answers an excellent purpose I did not quite understand till yesterday. In the drawing-room it is contrary to the old formalities of Court for any one to sit down, except by the Queen's special invitation to her own table. When she talks to any one she rises and walks up to them; and the conversation over she walks back to her table. Round this table are generally sitting the ladies of Court, and men of high rank, officers of state, &c., &c.; but they are supposed to go there by special invitation. At the farther end of the room are card-tables round which the company may sit; but by courtesy they are, at that distance, supposed to be out of the Royal presence. But in the recess, where is the billiard-table, any one may lounge and sit just as suits him: and there are sofas, chairs, and cushioned benches in abundance. For the room is very large, though it looks small in my miserable sketch. The moment the Queen leaves the drawing-room the guests and Household retire to their respective apartments. Before the Queen retired I was sent for to receive the Royal adieu. There is no formality in it. The Prince then held out his hand and said adieu—and so ended the Royal visit; for I shall not see them again, unless it be by accident, before I start for the steamer this morning. But the young ones are visible; and the little Prince of Wales is, at this moment, riding a rocking-horse just under my window. There! I have done. I must dress for breakfast, then find my way to the pier, and embark in the Fairy for Gosport. I hope to dine in London, and tomorrow to be again in Cambridge. I have sent you this account of my visit, because I thought it would amuse you all. I have been scrawling in the greatest hurry, and by snatches of time. You may read parts of this letter to your friends if you like; but take care of it, and don't let any one have a copy of it; for I have sent the kind of gossip which a newspaper editor would like to lay hold of, but which I would not supply him with on any account whatsoever. Of course I have written

1847. Æt. 62. about myself, because I have told things exactly as they happened to myself. So now a happy Christmas to you all.

Ever, dearest Isabella,

Your affectionate uncle,

A. SEDGWICK.

To Miss Kate Malcolm.

CAMBRIDGE, *February 7th*, 1848.

"...I began my lectures in the latter part of October, immediately after my return from Dent. It was my 30th course, and I had a very large class. Do you know that the Cambridge daughters of Eve are like their mother, and love to pluck fruit from the tree of knowledge? They believe, in their hearts, that geologists have dealings with the spirits of the lower world; yet spite of this they came, and resolved to learn from me a little of my 'black art.' And, do you know, it is now no easy matter to find room for ladies, so monstrously do they puff themselves, out of all nature, in the mounting of their lower garments, so that they put my poor lecture-room quite in a *bustle*. Lest they should dazzle my young men, I placed them, with their backs to the light, on one side of my room. And what do you think was the consequence? All my regular academic class learnt to squint, long before my course was over. If you can't understand this, come and see for yourself; and I will promise you, that when you set your foot in my lecture-room, and sit down with your back to the light, you will make them all squint ten times worse than ever.

About the end of term I received the Queen's commands to spend two days at Osborne House. I had a charming visit, and was treated with a kindness which has made me very grateful as well as very loyal. There were no red coats—no bands of music—no state. Everything savoured of domestic peace and love; and the Queen and Prince seemed as happy as human beings can be in this world...."

During the winter of 1847—48 Sedgwick was nearly as ill as he had been during that of 1846—47, with the additional discomfort of being obliged to travel about when he ought to have been nursing himself at home. He was called to Dent on family business in December, caught a cold, and had to return to London before it was cured, having been bound over to prosecute a thief who had stolen his portmanteau. A quiet visit to Hurstmonceaux restored him to comparative health, thanks to the skilful nursing of his host and hostess; but a hasty journey to Norwich brought the worst symptoms back again. "A few hours after my arrival," he wrote, "I was smitten down by an attack of influenza, and almost confined to my bed. Mr Brooke the Rajah of Sarawak was there; but I only once attempted to dine with the Bishop, and I did so in much misery. You have read of the cup of Circe, which

> whoever tasted, lost his upright shape,
> and downward fell into a grovelling swine:

but the influenza is worse than Circe's dose. It turns a man, even a beautiful man like myself (for surely, my dear Kate, you might say of me in Milton's own words 'Adam the goodliest man of men since born'), into a slimy reptile[1]."

1848. Æt. 63.

Under these circumstances mental exertion was out of the question, and Sedgwick was obliged to decline writing the article on Geology for the *Admiralty Manual of Scientific Inquiry*, which it appears he had consented to undertake. He told the Secretary of the Admiralty that he was "good for nothing, and could do nothing," even in the way of advice. But to Herschel, who was editor of the work, and to whom the application to himself was no doubt due, he made an excellent suggestion: "I should think Darwin's advice valuable; he knows practically what is wanted[2]." This was acted upon, and Darwin consented to write the article.

[1] To Miss Kate Malcolm, 2 January, 1848.
[2] To Sir J. W. Herschel, 2 January, 1848.

1848. Æt. 63. Sedgwick was to be in Residence at Norwich during May and June, and he was very anxious to induce the Herschels to pay him a visit. After some correspondence Sir John had suggested May 16 or May 17, and had added: "How are you off for Chartists about you? Is it necessary to travel armed with patent double-action revolvers?" He received the following reply:

NORWICH, Thursday Evening, [27 *April*, 1848].

My dear Herschel,

Norwich! no, I mean Cambridge; for I am at Cambridge still, but indeed I am as stupid as an ill-fed jackass, and cross as a cat with its foot in a trap. But I mean to be all sweetness the moment you are all with me. The 16th suits me exactly, as I have made no engagements yet for my Residence. But do come on the 16th and not on the 17th, for the philosophy of Pythagoras tells you that 16 stands for good luck, which is more than you can say of 17. The former is a buxom number, the latter looks angular, ugly, and old-maidish. Merry 16 for ever! Is it not made up of one and a perfect number? Is it not the square of four? And is not four like the ace of diamonds? Turn 16 upside down, and, like the housewife's cat, does it not again stand on good legs. And is it not then made up of the number of the muses, and the square of the number of the graces + one over for luck? Come then on the 16th, and you will come in the nick of time, and old Nick is in it if you don't nick in on the right day. Per contra look at 17! Tis made up of one and a gibbet-post. And does not the upper shank of said gibbet-post point to the left hand, which is a sign of ill luck? A spoon-fed baby—one who has not yet learnt 'to lisp in numbers'—would choose 16 before 17. Come therefore on the 16th of the merry month of May; and when come you will then surely be well come. So there is a bargain struck! And stay with me as long as you can—the longer the

better. Lady Herschel and your two daughters will do me a thousand times more good than a thousand doses of colchicum, which alas! has for the last month been my meat and drink. 1848. Æt. 63.

So good night. My kindest regards to your best rib, and my affectionate remembrances to all your young folks, though I fear some of them are too young to remember me.

Ever truly yours,

A. SEDGWICK.

P.S. I know nothing about Chartists; but bring your patent revolvers with you to take care of Lady H., and I will find some sharp blades to guard your daughters.

To Bishop Wilberforce.

CAMBRIDGE, *July* 16, 1848.

My dear Lord Bishop,

Surely 'tis no sin to write to a Bishop on a Sunday morning; especially if the writer have risen at 5 a.m. (as I have done) in the hope of paying off some of his many debts. I am only passing through Cambridge that I may arrange some matters of business, and pack my geological apparatus for a tour in Scotland. My table is covered with notes and parcels, which have come since I left Cambridge at the end of April. Among them I find the sermon your Lordship preached at Oxford on the occasion of the meeting of the British Association. I heard it then, I rejoice to have it now, and I send you my best thanks for it.

What strange turns the political world has made since I last saw you! I used to call myself a whig; I don't know what to call myself now. The whigs have disgusted me ever since their admission of slave-grown sugar in 1841, and I think they cut a shameful and sorry figure in the long debate in the House of Commons during this session. You may judge of my opinion when I say that the only speeches I quite liked in that wire-drawn debate

1848. Æt. 63. (on the sugar question) were those of Lord Nugent and Sir Robert Inglis. Sir Robert spoke like himself—Lord Nugent spoke above himself. The earliest pictures shown to me by my father when I was a child were ugly pictures of the horrors of slavery. As soon as I had learnt to scrawl my name in child's characters I remember asking leave to sign a petition against the slave-trade. Leave was granted, and I felt proud of the first political act of my life, when my dear father patted me on the head. Oh that some of the spirit of old Fox were still left among the whigs! with all his faults he always felt nobly; and he would, I think, never have allowed beggarly economical views to seduce him out of the road of humanity and national honour.

I shall have no opportunity of meeting any of my friends at Swansea this summer. Two months I have spent in Residence at Norwich. It will never do for me to cut my Scotch work in two by a run to South Wales; especially as I must be here to attend the Fellowship Examination the first week in October. I know your many engagements, but Cambridge is now only two hours from London, and I should rejoice to conduct your Lordship through my Museum, and to offer you the hospitality of the College.

Believe me,
My dear Lord Bishop,
very faithfully yours,
A. SEDGWICK.

Sedgwick's summer was devoted to a revision of his work in 1841 along "the southern chain of Scotland that runs from St Abb's Head to the Mull of Galloway." After a brief visit to Dent and Kendal—where he picked up John Ruthven and his inseparable companion the dog *Charlie*—he travelled by way of Glasgow to the coast of Ayr. There and in Wigtonshire he enjoyed himself exceedingly in the society of old friends both recent and fossil. "The weather is charming," he wrote, "and the country delightful, and day

by day I get younger and stronger." As before, he dwells enthusiastically on the scenic beauties of the district—the wooded shores—the warm and fruitful valleys opening to the south—and the glorious views seaward; but on this subject enough was said while describing the former visit. Of geological details his letters are provokingly barren, for, as he was no longer collaborating with any one, he had no reason for keeping a correspondent informed of his discoveries. That he collected vigorously, is evident from the following anecdote: 1848. Æt. 63.

"Near Girvan I met a pretty lassie about seven or eight years old. She was very curious about our employment. I asked her name. 'Primrose Caldwell', was her answer, and she lived near a large limestone quarry, and could show us 'flood-shells in plenty.' By *flood-shells* she meant shells left at Noah's flood, as I soon made out. 'Ye are just the bonnie lassie I want,' said I, 'and if you will show us the quarry, I will give you a penny for every flood-shell you can pick up.' Away went little Primrose on her bare feet, and worked so effectually, that she emptied my pocket of coppers, and drew sixpence over from me. She beat Ruthven two to one. I never saw a child in greater ecstacy[1]."

As a pendant to this picture may be quoted Sedgwick's comments on Scotch landlords and their habits. "In many parts of Scotland the inns are very good and well kept, but a geologist pokes into odd nooks and corners, and certainly I found some true old Scotch dirt among them. The landlords in these out-of-the-way places have a sad habit of drinking whiskey, and their noses look like the ends of hot pokers. An old fellow of this class was very angry that I disturbed his lasses so early in the mornings. 'There's the man wi' the hammer fashing ā the hoose,' he groaned one morning about six. Soon afterwards he turned out, and went to his fountain of comfort, the whiskey-bottle. 'You

[1] To Miss Fanny Hicks, 21 August, 1848.

1848. Æt. 63. will burn your gizzard,' cried I, 'if you swallow that hot stuff so early, and you will make your liver as hard as a lapstone.' 'Hout awa,' cried Boniface, 'a drap o' whuskey does hurt to na man. Ye wash your mouth wi' a brush and cald watter. I ken a better way. I wash mine wi a drap o' whuskey.' But he did not let one drop serve him; for soon afterwards one or two brothers of the bottle-nose corporation came in for their 'drap o' morning,' and they all seemed to be gathering round the neck of the whiskey bottle with most spiritual devotion[1]."

From this corner of Scotland Sedgwick worked his way by Dumfries to Edinburgh, and then along the east coast to Berwick, whence he made a fresh start, and ascended the Tweed, "following its sinuosities for about 100 miles." By the end of September he was once more at Dent.

The results of this summer's work, combined with that of 1841, and some further researches made in 1849 by John Ruthven, were read to the British Association at Edinburgh in 1850. The opening sentences of the paper give a general summary of Sedgwick's conclusions.

> Leaving out of account all igneous and intrusive rocks, the chain is essentially composed of a peculiar form of greywacké, often coarse, and sometimes, though rarely, passing into a very coarse conglomerate, not unlike some of the conglomerates among the old rocks of South Wales. These hard coarse beds alternate indefinitely with a peculiar soft, earthy, and almost pyritous alum-slate, which frequently has undergone such compression and induration that it passes into an earthy flag-stone, and, more rarely, into a pretty good roofing-slate; but in no instance is the slaty structure distinct from the stratification in any quarries that are worked for use.
>
> From one end of the chain to the other the beds are highly inclined, strike generally in the mean direction of the chain, and are thrown into contortions and undulations. The great protruding granitic masses never form any true mineralogical centre, though producing, as might be expected, considerable local derangements, and local changes of structure; and, in a few instances, they are accompanied, near their junction, with the phenomena of mineral veins. The axis of the chain, the centre of the vast undulations,

[1] To Lady Herschel, 23 September, 1848.

seems to be very ill-defined; and the difficulty of determining this point is greatly increased by the bogs and extensive vegetable accumulation by which the sections are much covered[1]. 1848. Æt. 63.

At Edinburgh Sedgwick was much disappointed at failing to meet Mr Hugh Miller, with whom he had already corresponded. The letters that he wrote to him subsequently throw some light upon this summer's work, and are further valuable as showing the continued interest he took in fossil fish. In the first letter, after expressing regret at having missed him repeatedly in Edinburgh, Sedgwick proceeds: "I am told you have a magnificent collection of the Old Red Sandstone fishes. Have you many species not in the monograph of Agassiz? Though my collection from this formation is by no means first-rate, yet I have several undescribed species. Of course you are well acquainted with the discovery of scales, teeth, and other fragments of the skeletons of fishes from the Old Red Sandstone of Berwickshire. I visited the localities near Dunse along with Mr Stevenson, the first discoverer of these fossils. They are satisfactory, though not good as specimens. I have little to say of the greywacké chain that you do not know already. Graptolites are the prevailing fossils. Wherever thin dark aluminous beds occur between the hard, thick, arenaceous, greywacké, we hardly ever failed to discover them, and sometimes in most incredible abundance. The absence of limestone and of fossil shells in the greater part of the chain from St Abb's Head to the Mull of Galloway is very remarkable. Wherever calcareous matter appears, whether in beds or large concretions, you may, however, find fossil shells, and they are by no means rare in the chain which extends south of a line drawn from Ballantrae and Girvan. The stratification of the chain is so confused, and so much concealed, that I literally could make nothing of it[2]."

[1] *Report* of the British Association for 1850 (Sections), p. 103.

[2] To Hugh Miller, 28 September, 1848.

1848. Æt. 63. *To Hugh Miller, Esq.*

CAMBRIDGE, *October 11th*, 1848.

My dear Sir,

Let me thank you for the pleasure and instruction your papers have given me. I shall take them with me and look them over while I have more leisure. I only told you the plain truth when I said I thought it quite a misfortune not to have seen you at Edinburgh. I wished to make your personal acquaintance, and I wished to see your collection; and I had another, and in some respects a more selfish, motive. I make no collection for myself; but I am anxious for the honour of the University collection, which has grown up under my hands, and is now very valuable and instructive. Now I thought I might engage your interest in behalf of Cambridge. You know the localities in Scotland better than any man living, and you know the persons who collect the Old Red Sandstone fishes. Many valuable specimens of species you possess already may be submitted to you from time to time. Specimens you do not want for your own collection might be of very great value to us, and I should be anxious to purchase such on your recommendation. This was one subject about which I wished to speak to you. But I know how much you are engaged, and perhaps I am unreasonable in making this request for your kind intervention whenever an occasion may turn up. Believe me,

My dear Sir, very faithfully yours,

A. SEDGWICK.

To the same.

SCALBY, near SCARBOROUGH, *December 2nd*, 1848.

My dear Sir,

I ought long since to have thanked you for your copies of *The Witness*. Your remarks on the stones imbedded in your Drift Clay, and grooved parallel to their longer axis, were quite new to me, and I think very instructive, though I was not quite satisfied with your mechanical reasons for the

phenomenon. I have seen nothing like it in the Drift Clay (almost exactly like your Till) of the flat southern countries of England. I believe our Till (if we may so call it) was formed exclusively by water— by waves of translation—and not by ice; and I by no means agree with what Lyell has written about it. I still think it a misfortune that I missed you and your collection—and I hope before long to come again to Edinburgh to make up for what I lost; and by the express from London 'tis but one day's journey, thanks to steam....Have you seen McCoy's paper on certain fishes in my Museum derived from various parts of the Old Red Sandstone? It is published in *The Annals of Philosophy*[1], and contains some good and new matter, and the description of one or two new species. 1848. Æt. 63.

Let me, before I conclude, thank you also for a second great pleasure I had last term while reading over, a second time, your account of your English tour. I doubt whether there be another man living who could have visited the several spots described in your narration with like feelings. A geologist might have rejoiced with you in the Dudley quarries; and thousands would gladly walk with you through scenes consecrated by Cowper's poetry, but few indeed would travel the whole road with you. I could enter into the most of your feelings and descriptions, though I should perhaps have yawned my way through the wreck of poor Shenstone's walks, cascades, and temples, had I been your companion[2]. All your descriptions, however, I like.

Believe me, my dear Sir, very truly yours,

A. SEDGWICK.

The Michaelmas term was spent as usual in lecturing. At the beginning of the Christmas Vacation Sedgwick fulfilled

[1] McCoy's paper was read before the Cambridge Philosophical Society, 5 June, 1848, and an abstract printed in *The Annals of Philosophy*, XXXIII. 311. The complete text will be found in *The Annals and Magazine of Natural History* for 1848, II. 1—10, 115—133.

[2] *First Impressions of England and its People.* By Hugh Miller, 8vo. London, 1847. Chapters VIII, IX, X, describe a visit to The Leasowes, a small domain laid out by Shenstone the poet.

1848. Æt. 63. a promise made long ago to Henslow. "On Monday the 11th" he writes "I went to Ipswich. On the 12th I lectured to a class of six or seven hundred people. On Wednesday we had an anniversary dinner with the usual accompaniment of speeches, and then in the evening a grand promenade in the Museums[1]."

The subject of the lecture was the anatomy and physiology of three of the gigantic extinct mammals of South America, the *Megatherium*, the *Mylodon*, and the *Glyptodon*. It is difficult to understand how such a subject could have been made interesting to an audience not specially acquainted with paleontology—but we are told that they were "alternately charmed with the vast learning of the lecturer, and thrown off their gravity by the most grotesque illustrations." No doubt Sedgwick did his best with his extinct mammals—he was always fond of paleontology; but, just as the most important part of a letter is not seldom to be found in the postscript, it is evident that he threw his whole strength into the second part of the lecture, where he dilated, with characteristic vigour and emphasis, on the lessons to be learnt from such discoveries. Sedgwick's lectures—no matter what the subject-matter with which they began—usually ended with whatever was uppermost in his mind at the moment. When he appeared before his friends at Ipswich he was forging fresh thunderbolts against the author of *The Vestiges;* and in consequence we find a considerable space devoted to the argument from final causes. He concluded with a noble passage on the true method of reconciling science with revelation. "If," he said, "we believed, as we did believe, that the Author of Nature allowed us to call Him Father, and that He called us children, and that He gave us the hope of a heavenly hereafter, let us also believe, at the same time, while obeying those instincts which He has implanted in our bosoms, and reading the records

[1] To Miss Fanny Hicks, 19 December, 1848.

of His will as written in the solid framework of the earth, or in the glittering phenomena of the sky, or in what the broad generalisations of science had manifested, that these two kinds of truth, embodied in physical history and revealed religion, so far from being conflicting, were entirely in unison and harmony, if we investigated the one, and read the other, in a right spirit[1]." 1849. Æt. 64.

The year 1849 may be introduced by the following letters:

To Miss Fanny Hicks.

CAMBRIDGE, *January 27th*, 1849.

My dear Fanny,

I reached Cambridge this day fortnight, after a very pleasant visit to my old friend and pupil the Archbishop[2]. On my table were many letters requiring answers, and among them a note from Mr Armstrong[3], an old schoolfellow and college friend, whom your papa must remember, though he left Cambridge and went to the Bar before my brother James came to college in 1813. His wife and niece were with him on a visit to Professor Starkie[4] of Downing College. When young, Mrs A. was very beautiful, and I believe there was a strong attachment between her and my friend Armstrong about thirty years since; but they had no money, and so Love flew away, and Hymen put out his torch. In course of time Armstrong became Recorder of Manchester, and the emoluments of that office, with what he made as a barrister, enabled him again to think of marriage; and a considerable fortune had also come to Miss Blamire, now Mrs Armstrong. Twenty years or more had not extinguished the fires of love; they were still

[1] *The Suffolk Chronicle*, 16 December, 1848.

[2] Rev. T. Musgrave, formerly Fellow of Trinity College, became Archbishop of York in 1847.

[3] R. B. Armstrong, of Trinity College. See *Index*.

[4] Thomas Starkie, of St John's College, B.A. 1803; afterwards Fellow of St Catharine's College, and Downing Professor of the Laws of England 1823—49.

1849. Æt. 64. smouldering in the embers. So off he set, made an offer of marriage, and soon converted a *very old maid* into a very happy *old wife*. I dined with them on the 14th at Downing, and they dined with me on the 15th.

Then, after a day spent in letter-writing, I went up to a meeting of the Geological Society; but I returned early on the 18th, to prepare for my visit to Norwich. Jenny Lind was to sing on the 22nd and 23rd, and I had asked four college friends to my house. Isabella's bed and yours were occupied by two of our Tutors[1]. My best bed fell to the share of Martin our Bursar, and Professor Walmisley[2] had the dressing-room. I had my own bed, and the ground-floor study was made into—what think you? A smoking-room! Was not this a charming arrangement?...

Jenny Lind had quite a triumphal entry on the Saturday. She was greeted by lusty cheers, and followed with acclamations to the Palace, being conducted in the Mayor's carriage. St Andrew's Hall was filled almost to suffocation; but my party had good reserved seats secured by the kind forethought of my friend Kate Stanley. I had a gay luncheon for some ladies on the Tuesday, and in the evening we all went to the Palace. Jenny Lind played some Scotch and Swedish airs, but did not sing. Walmisley then gained great applause by a performance on the piano. Jenny turned over the leaves for him, and turning round once or twice cried out in German, 'splendid, glorious, and he feels it.' He then laid a trap for her. He played a sweet national Swedish air, and spite of herself she began to sing. On Wednesday morning all my party (except Walmisley who performed again at the Palace on Wednesday evening) came away. Two ladies joined our party; so we filled one carriage, and had a right merry journey to Cambridge. I

[1] Rev. W. H. Thompson, M.A. afterwards Master; and Rev. W. C. Mathison, M.A. then one of the Assistant Tutors.

[2] Thomas Attwood Walmisley, Professor of Music 1836—56, and organist to Trinity College.

1849. Æt. 64.

was truly sorry when it was over. So now, dearest Fankin, you have my history. I am again dull and busy, and on Thursday I was half dead with fatigue and the pressure of a bad cold. I went out for a few minutes yesterday, but I could not stand the cold air, though the day was charming, and the sun shining. So I came in again and read Layard's account of his great discoveries among the ruins of Nineveh. The two volumes are full of wonders. You may see an excellent Review of the work in *The Quarterly*, written by Milman. *Vanity Fair* I have also read since I returned to Cambridge from Scalby. It is a very clever book; but I am not sure that it is profitable reading. 'Tis late and I am rather tired, so lift up your mouth and give me a kiss, and then pass it round. Ever affectionately yours,

A. SEDGWICK.

P.S....'Tis said that the Norwich Charities will gain £1200 by Jenny's visit. She *gave* her services! Indeed she is a noble creature.

Sedgwick's account of Jenny Lind at Norwich may be supplemented by what Miss Stanley wrote after her departure:

> It was a wonderful evening that Wednesday. We had no regular party—only the Committee and some of the manufacturers, etc. She sang like a bird of paradise, till the whole house rang again. It was impossible to keep the people out; the stairs and passages were thronged, and when at last they were obliged to lock the front door the people stood under the windows, and all down the walks, in hopes of catching some remnants of the heavenly sounds....
>
> The next day she went. She showed the deepest emotion at leaving us, and we feel as if a ray of sunshine had departed. It may seem extravagant to say so, but it is impossible, after spending five days in her society, not to feel that we have been in the presence of one of the great ones of the earth. She is a wonderful being!

From one young lady to another the transition is easy; and therefore we will next quote a playful note written to the second daughter of Mr Hopkins, the well-known mathematician and geologist. He and his family were very intimate with Sedgwick.

1849. Æt. 64. *To Miss Augusta Hopkins.*

TRINITY COLLEGE, *January 28th*, 1849.

My dear Miss Hopkins,

I have found your lost glove and now return it. Call therefore all your lady friends together, and tell them to rejoice with you. But it was cruel of you to ask for it, as it was the only glove of the kind in my old College den; and indeed I had watched it, and fostered it, with as much care as if it had been the big Punjaub diamond. Now that you have it, pray take care of it. Gloves have done much mischief—sometimes they have been symbols of love—sometimes of deadly hate and furious fight—sometimes they may have symbolized both love and hate—for purring and scratching are often close together. But these are mysteries I have long outlived. All I have to say is—take care of your glove; and keep it safe till the day a priest orders you to pull off your glove, and give your bare hand to the happiest man in England. After that day you may throw it away, if such be your liking. I made a mistake yesterday and grasped the hand of a stranger who was between you and your sister. If she thought it odd pray tell her that, though I am sometimes out of my mind, I am generally looked on as harmless. I really at first imagined that the lady had been a duplicate of yourself—another Miss Hopkins. My act only proved that she dazzled me—and so I hope she will forgive me. So now good morning. Had I been forty years younger I should have cried out with Romeo 'Oh that I were a glove' (by the way I have all my life been thought like Romeo, and like him I have been sadly crossed in love); or perhaps I might have come with your glove pinned to the left side of my waistcoat, and asked you to wear the man that bore it so near his heart. These are grave matters; but 'tis right to speak with gravity on a Sunday morning, is it not? So, with all kind wishes, I am

Most truly yours,

A. SEDGWICK.

To Mrs Horner.

1849. Æt. 64.

CAMBRIDGE, *March 14th*, 1849.

...Jenny Lind has been here. She sang like an angel on Monday. On Tuesday I showed her the lions; but the admiring mob so pressed upon us that she became quite nervous, and was obliged to retire to her lodgings. She now speaks English admirably, and begins to relish our best writers. She is a person of great simplicity of purpose, of a heart glowing with kindness, and of a great genius—not in music only, but in anything to which she turns her mind, and her mind is open to all subjects that best adorn a woman. I was surprised at her information, considering how very large a portion of her life must have been absorbed in professional studies. She is very religious without any cant, and she seems to rejoice inexpressibly at her emancipation from the theatre. Were it not a sin I should envy the man who is going to marry her. It once or twice struck me how charming it would be to have her at one's side and to teach her English. Is it not said that 'old men dream dreams'?...

At the end of March we find Sedgwick at Norwich. He affected to be drawn thither by Chapter business, and the presence of the judges, but admitted that "above all" he hoped to attend Rush's[1] trial. Mr Jermy, the elder of the two victims, had been Recorder of Norwich, and perhaps was personally known to Sedgwick; but even without that additional inducement, the atrocity of the crime, and the dramatic incidents of the trial, offered irresistible attractions. We have often heard him describe in conversation the scene recorded in the following letter:

To Miss Isabella Sedgwick.

CAMBRIDGE, *April 6th*, 1849.

"...On the 29th began the great trial. I went with the

[1] On the evening of Tuesday, 28 November, 1848, a man named James Bloomfield Rush entered Stanfield Hall, near Wymondham, the residence of Mr Jermy. He shot Mr Jermy and his son dead, and severely wounded Mrs Jermy and her maid, Eliza Chestney, who ran to help her mistress.

1849. Æt. 64. Bishop at 7 a.m. to secure a seat in the Sheriff's gallery. You can hardly conceive the excitement. The Bishop and six Peers were sitting on one bench, and all the aristocracy of the county seemed collected in the Crown Court. The trial began at 9 exactly. But I need not tell you of details which are so well given in the papers. On the afternoon of that day Eliza Chestney was brought on a couch into the Court. She had resolved to come, and many thought she would die on the road from Wymondham. It was not like anything in real life. It seemed like some scene in wild romance conjured up by magic before the eyes. She was in deep mourning, and pale as death from long suffering, and thin as a skeleton, yet her features were beautiful, and her voice most sweet and touching. She spoke in good English, and with the accent and manner of a well-bred woman. Her evidence you have read, but no words can convey to you the thrill that ran through the Court when at the conclusion she was asked if she could tell who was the murderer. She stretched out her right hand, and pointing to the prisoner said: 'That is the man.' It seemed as if she had expended all her strength in this one effort. Her thin pain-worn hand sank down, and for several seconds there was through the whole Court a death-like silence. Even Rush seemed to be abashed for an instant, but soon recovered, and commenced a cross-examination, by which, however, he gained nothing....

I attended the whole of Thursday, Friday, and Saturday. On Monday I was out of Court a few hours. On Tuesday afternoon I attended a Chapter meeting of two hours, and on leaving Court on the same evening I was so tired that I could not dine at the Palace, but took a basin of broth at my own house, and went to bed for two hours, and then joined them in the drawing-room. Now, however, I had an excellent seat close to the judge, procured for me by the Chief Baron. During the week before I had been cramped to death in the gallery. On Wednesday (the last day of the trial) I was in Court from 8 a.m. to 8.30 p.m., when sentence of death was

pronounced by the judge after a short and most impressive speech, delivered with great solemnity and feeling. The prisoner was the only man who seemed to hear his sentence with hardihood and indifference.... 1849. Æt. 64.

To Sir R. I. Murchison.

THURSDAY, 5 *April*, 1849.

...It [the trial] has been a wonderful psychological phenomenon...:The monster Rush is a man not without feeling; is capable of being moved to tears, susceptible of deep religious emotion, not, I believe, put on to cheat, but, for a moment, felt. He was, of course, without any steady moral principle; and he had become so hardened and selfish, that he was persuaded that whatever he was inclined to do was right....

Sedgwick's Residence at Norwich this year was to occupy him during May and June, after which he hoped to be able to resume his work in Scotland. But early in May he fell over the sill of a window on the ground-floor of his Norwich house, and bruised one of his legs. The wound seemed so trifling that he went about as usual for a week or so, until the pain became excessive. "So I sent for a surgeon," he says, "and he looked glum, and called in a second surgeon, and they ordered me to bed, where they kept me for a fortnight with a cradle over my leg[1]." During this period of quiescence the inflammation culminated in an abscess, which produced sleepless nights, and great weakness. The end of June came before he could "hobble to the drawing-room on crutches;" and even then his recovery was slow. Perhaps it was retarded rather than accelerated by the assiduities of his friends; for during a subsequent illness he was reminded by one of his lady-friends of the time "when you bore your confinement with heroic patience, and reclining in Asiatic state, you graciously received courtiers, and admirers, and friends, and lovers." But a short spell of quiet

[1] To James Ainger, Esq. 14 July, 1849.

1849. Æt. 64. at the sea-side did wonders, and when he got back to Cambridge at the end of July he announced that "I am now, thank God, in excellent health; and my leg is quite free from pain, though still rather stiff, so that I halt a little when I walk. But I improve hourly; and in a day or two I hope to resume my horse-exercise[1]." For the next six weeks he remained quietly in Trinity College, preparing the final edition (the fifth) of his *Discourse*, to which reference has been already made[2]. He then hoped to publish at no distant date; but from various causes, to be narrated as we proceed, the complete work did not appear until the year 1850 was far advanced. We will therefore defer the remarks we have to make on it, and for the present content ourselves with the two following letters.

To the Master of Trinity College.

CAMBRIDGE, *August 29th*, 1849.

My dear Whewell,

You are now out of England, and I resume my old address. When you come back you must again be 'Dear Master.' I have just returned from the grave-side of the poor Marquis[3], to which I went with the family as a mourner. He died on Sunday morning about nine of mere exhaustion. For long he has not been able to swallow any solid food, and latterly he has only swallowed liquids in small quantity, and with great uneasiness and difficulty....

I arrived here towards the end of July; and I hope to attend the Birmingham Meeting on the 12th of next month. When it is over I trust that I shall be able to go back with Isabella to Dent, and to drink in health and happiness among my native hills. On or before the 1st of October, I mean to be again in Cambridge. My leg continues stiff and rather troublesome, but I can bear horse exercise, and *Mercury*

[1] To Mrs John Sedgwick, 24 July, 1849.

[2] See above, Vol. i. p. 402.

[3] The Marquis Spineto, Vol. i. p. 457, *note*.

is in such flighty spirits that he sometimes, in the hot weather, gives me more exercise than I like. I mean to be on his back as soon as I have finished this sheet.... 1849. Æt. 64.

As I cannot climb mountains I am trying to pass through the press a preface that ought to have appeared more than two years since. I wish you were here that I might consult you on some points where I do not feel myself strong. A preface of three hundred pages to a sermon of but eighty will look somewhat out of proportion, but it will be a dissertation on many weighty questions, and I must try not to break down under the load of them. I trust that your residence at Kreuznach has entirely restored Mrs Whewell's health. I must stop, for my hand will not bear crossing.

Ever truly and affectionately yours,

A. SEDGWICK.

To Hugh Miller, Esq.

CAMBRIDGE, *September 3rd*, 1849.

My dear Sir,

Your beautiful little book, *Footprints of the Creator*, came to me about ten days since. As I was then very busy, and M^c^Coy longed to see it, I lent it to him, and he returned it on Saturday evening. I have now skimmed over one or two of its chapters, and I will lose no more time before I heartily thank you for the great delight it has so far given me, and for the great profit and pleasure I promise myself from its perusal and study. I am here in consequence of a severe accident, the effects of which make me at present incapable of climbing mountains, or doing any good field-work. But for this misfortune I should have been now hammering in the frontier chain of Scotland. I am however making a virtue of necessity, and passing through the press a long preface to a little work which was printed early in 1847. The geological part of my preface or dissertation was written in the spring of 1847, and I meant to pass the whole through

1849. Æt. 64. the press during the spring of that year. But my old tormentor, the rheumatic gout, came upon me, and drove me to Bath, and since then I have never had time or nerve to continue my long-interrupted task.

In the early part of this preface, which has been some time printed, I have replied to the remarks on my *Review* by the author of the *Vestiges*, but, as I wished to write popularly, so far as possible, and not technically, I have thrown my remarks upon heterocercal tails, Ganoids, etc. etc., into a note (not yet printed), which is to appear in a supplement to the appendix. In this note I have adopted M^c^Coy's nomenclature (diphycercal) for what you call *tails set awry*. I think his tripartite division a good one. He had shown from my specimens that the *Diplopterus* was not truly heterocercal, as it is represented in the restoration of Agassiz. But he never meant to speak disrespectfully of Agassiz. He only meant to say that his own specimens showed more than those figured in the monograph of the fishes of the Old Red Sandstone. Agassiz is a great naturalist, but not a prophet. I wish Egerton[1] had not attacked M^c^Coy, whose reply[2] seems to me quite satisfactory. I honour and respect them both, and neither of them wishes for anything but the promotion of truth.

In the note I have said a word or two about the place of the Ganoids of the Old Red Sandstone, and mentioned the peculiarities of the intestinal canal, as indicated by the coprolites. This I find well noticed in your book (parts of which I have skimmed by help of the pictures—a very common way with me of reading), but I think I have, by help of M^c^Coy, pushed the matter a little further than you have done. He pointed out to me last year a remark of Müller's, that all Ganoids with the spiral intestinal valves have a muscular *bulbus arteriosus*. Their hearts are therefore almost identical with the hearts of the lower reptiles. This remark I have endeavoured to turn to good account. I have hinted at

[1] *Annals and Magazine of Natural History*, 1848, ii. 189.
[2] Ibid. 277.

the fact of *degradation*, both in my *Review* and in the forthcoming dissertation; but I have not said how this was done in the anatomical economy, except so far as this—that the heterocercal tail is of a higher type than the homocercal in the great archetype of nature. As my appendix is not yet printed, I shall be able to refer to, and perhaps (with your permission) make a short abstract of, your views of *degradation*, which, so far as I have read them, seem to me admirable.... 1849. Æt. 64.

You will find that your opinions on religious points nearly run parallel with mine. I hold (against the Huttonians) that Creation had a beginning in time, and that this conclusion is based on inductive evidence: viz. that man is the last of the existing order of things, and that animal creations are not now going on, as Lyell seems to think probable. I have made this one of the links of an analogical argument in favour of Christianity.

What I have alluded to ought to have appeared long since. The spring is the only time of the year I have any leisure for writing or thinking. In the autumn I am fully engaged with my lectures, in the winter my time is filled with my clerical duties at Norwich Cathedral, and in the summer, ever since 1818 until now, I have been out in the field. But alas! during all the spring months of 1848 and 1849 I was absolutely crippled both in mind and body—without temper, or spirits, or memory, or power of application to anything requiring continued thought. Still my little work—spite of so many obstacles in my way—would have been out, and you would have had a copy, about last March—had not my views on certain moral questions expanded. I am writing expressly for the use of our undergraduates, and I could not pass these subjects over. So I have said something of Christian Evidences—of systems of Metaphysics—of Mysticism and Rationalism both as dealing with nature and Revelation—and something also of our enlarged plans of academic study. In doing this I have been forced to wade

1849. Æt. 64. through mud and mire, and then to halt and wipe my shoes—all which takes time. My geological task has been done some time—and my first sketch of all these latter subjects has been some time finished, and part of it is passed through the press; but the parts remaining want revision; and I shall be forced to postpone this necessary task till my return from the North after the British Association. And then alas! I shall be for ten days pinned down by our Fellowship examination. God granting me health, I hope to send you and my excellent friend Dr Fleming copies of my book sometime during the October term. I am only talking of an embryo: you have sent me a mature and developed work, for which, after this long rigmarole, I now return you my most sincere thanks.

Ever truly yours,

A. SEDGWICK.

P.S. All you have said of the *Asterolepis* is new and excellent. McCoy says he is delighted with it. May God long spare your health and give you all earthly blessings; and, may you use them through His help for His glory, and the good of your fellow-creatures!

Early in September, while Sedgwick was "counting the hours" till he should reach Birmingham, and have the happiness of again meeting his niece, whom he had not seen since his long illness, he was startled by the mournful intelligence that Bishop Stanley was at the point of death. A second letter, following close on the heels of the first, told him that all was over. The Bishop was in his 70th year, and had been in failing health for some time; but no immediate danger was anticipated, and he had left Norwich with his family in the middle of August, to pay a few visits in Yorkshire, followed by a short tour in the west of Scotland. They had reached their farthest point, Brahan Castle in Rossshire, before he was taken ill. There, however, just when they were preparing to start homewards, congestion of the brain set in, and he passed away in a painless sleep on the evening of

Thursday, 6 September. "What this will be to you, I know too well", writes Miss Stanley; "you have ever been our truest friend, and ever will be, whether in trouble or in joy, and may God bless you for all that you have been to us." Sedgwick was profoundly affected. He felt that Norwich would henceforward be a changed place to him. "If I may speak of my own sorrows now", he wrote to his niece, who knew and loved the Stanleys almost as well as he did, "it is a sad blow to me, and I am sure you will feel the same. The delightful society of the Palace, the charm and solace of my life, is gone for ever. I meant to leave Cambridge today, but I have had no spirits, and my health is a little suffering." He was pledged, however, to attend the meeting of the British Association, and on the following day he kept his engagement, but what his feelings were during the week at Birmingham may be gathered from the next letter. 1849. Æt. 64.

To Miss Isabella Sedgwick.

BIRMINGHAM, Sunday evening,
September 16th, 1849.

My dear Isabella,

I reached this place on Tuesday evening. On Wednesday the work began by a great public meeting, when Professor Robinson of Armagh was called to the chair. Thursday and Friday we attended the sections as usual. On Friday we had a great dinner in the Town Hall, and my nerves were put to a rather severe test. Without any notice from the President I was called on for a speech; and as they could not hear one from the spot where I sat I was forced to go to the top of the hall, and speak from one of the benches to an audience of five or six hundred, not to count those in the galleries....

I should have enjoyed this meeting had I not been in very bad spirits when I came. In the midst of our labours in the sections my mind wanders from the subjects before us, and begins to think of Norwich and the afflicted family at the Palace. The poor Bishop's body was sent forward in a steam-vessel, and was to be landed at Yarmouth. I have not yet

1849. Æt. 64. heard whether it has reached Norwich....I believe the funeral will take place on Friday. Should it be so I purpose to go to Norwich on Thursday; and of course to pay the last mournful offices of respect to the remains of the Bishop at the grave-side. What I shall do afterwards I cannot at present say; but I still hope to come to Dent for a day or two. Ever, dearest Isabella,

Most affectionately yours,

A. SEDGWICK.

For a moment, on learning that the Bishop was no more, Sedgwick had considered the loss as it would affect himself. Such thoughts, however, were soon banished by heartfelt solicitude for his friends. They were much comforted by his sympathy. "I know not how to thank you for your note", Miss Stanley said; "I could not have believed a letter had in it so much power of consolation. I feel as if you bore our sorrows for us; they could scarcely affect you more were they your own. I could almost wish that you felt less acutely, for I think with dread of the sorrow which I *know* that it will be to you."

To Miss Isabella Sedgwick.

NORWICH, *September* 21st, 1849.

Dearest Isabella,

I have just returned from the dear Bishop's funeral, and will endeavour to employ a few melancholy minutes in writing to you....

It was the most touching and striking ceremonial I ever witnessed. The Mayor and Corporation, in their civic dresses covered with crape, led the way. Then followed the coffin and pall-bearers; then the family and mourners, among whom went Mr Wodehouse and myself. About four hundred clergymen, in full robes, followed. And lastly, a great multitude of the respectable inhabitants in the city and neighbourhood. The procession was so very long, that I could only see a very small part of it. On reaching the western door of the Cathedral, there was a short halt. The doors were then thrown open, and on each side of the central

aisle of the nave eight hundred children, from the different schools of the city, were arranged in triple rows. The members of the Corporation descended through the nave to the choir, followed by the choristers in surplices and scarfs, chanting a psalm. Then the coffin and pall bearers, followed immediately by the family, and the rest in turn and in the order above described. I was told that the clerical body, walking four abreast, extended from the west door to the organ-screen. As soon as the choir was filled the door was shut, and the funeral service was read by Dr Philpott and the Dean. After which we returned to the grave in the centre of the nave, keeping the same order as before, the organ pealing the solemn Dead March in *Saul*. At the grave-side the choristers sang a solemn dirge, and then the concluding service was read by the Dean. There were thousands in the Cathedral. All parts of the triforium were filled. The organ-gallery was covered with spectators. All were in mourning. Many were deeply affected. Many thousand eyes were dim with tears; and you could hear the modest and half-concealed sobs of the little children as you passed down the nave, for the Bishop had visited all the schools again and again, and was loved by the children; and it was at his request, expressed in a written paper found in his study after his death, that they were all invited. The day was beautiful, and between the Palace-gate and the Erpingham gate, we marched through, I should think, not less than 20,000 spectators, who were all respectful and silent, and many of whom were sorrowful. Nothing happened to break in upon or mar the moral sublimity of the solemn procession and service[1]...." 1849. Æt. 64.

On Christmas Eve—after a Term spent in lecturing, writing the above-mentioned *Preface*, entertaining the distinguished French geologist M. de Verneuil, and other academic occupations—Sedgwick had a severe fall from his

[1] Printed, with some slight alterations, in *Addresses and Charges of Edward Stanley, D.D. with a Memoir*. By his son, Arthur Penrhyn Stanley. 8vo. London, 1851, p. 101.

1849. Æt. 64. horse, and again broke his right arm. "I was riding quickly", he wrote, "the ground was hard frozen, and the horse rolled upon me, and inflicted dreadful bruises on the right side of my body, from the sole of my foot to my shoulder. After recovering from the first shock I crawled to a bank, and was thankful that my leg, though it gave me great pain, was not broken. Soon afterwards I found that my right arm was fractured a little below the shoulder. With great difficulty, and helped by a man and two boys, I made my way to a turn-pike gate, where I remained till a fly came to carry me to Trinity College. The fracture was simple, and the bone was easily put in right position, and I was bandaged up like a mummy. My surgeon for some days was more afraid of the bruises than the fracture: but, thank God, no violent access of fever followed[1]." Recovery, after such an accident, was as rapid as could be expected at his age; but many weeks elapsed before he could do any serious work, and, anxious as he was to publish his *Discourse* in its new form, the confinement was specially irksome. It was cheered by the affectionate care of his nephew and Mr Romilly, who acted as his secretaries. If they answered all the letters of condolence that poured in upon the patient, their office could have been no sinecure. The Queen and Prince Albert expressed, through Colonel Grey, "the sincere regret with which they had heard of the accident"; Mr Hudson Gurney prescribed "a *quiet* sojourn at Keswick[2]", for, said he, "I am told that your doctors have recommended more quiet and seclusion than their patient has been willing to submit to"; another friend, with a turn for satire, sent a sketch of *Adam's Second Fall*, and suggested that there ought to be "a special geological horse that could guide itself, with a perception of good and evil paths"; and, lastly, some of his numerous god-children indited a joint letter to their "dear Seddy," regretting that he was not at Norwich, where they could "help him to pass away the many hours he would be obliged to spend on the sofa."

[1] To Miss Gerard, 19 January, 1850.

[2] Mr Gurney's country-house near Norwich.

CHAPTER III.

THE ROYAL COMMISSION OF INQUIRY. SEDGWICK ASKED TO BE COMMISSIONER. HIS HESITATION. BRITISH ASSOCIATION AT EDINBURGH. VISITS DUKE OF ARGYLL. FIFTH EDITION OF HIS *DISCOURSE* (1850). RECEIVES THE WOLLASTON MEDAL. ACCOUNT OF HIS GEOLOGICAL WORK SINCE 1838. GEOLOGICAL TOUR IN CORNWALL AND N. WALES (1851). ESTRANGEMENT FROM MURCHISON. ACTION OF THE COUNCIL OF THE GEOLOGICAL SOCIETY. VISITS THE QUEEN AT OSBORNE. PUBLICATION OF COMMISSION REPORT (1852).

THE year 1850, on which we are now entering, is memorable in the history of Cambridge for the appointment of a Royal Commission of Inquiry into the state, discipline, studies, and revenues, of the University and the Colleges. As Sedgwick was one of the Commissioners, and devoted much time and thought to the work, it is necessary to say a few words on the causes which led to such a step on the part of the government.

It had long been admitted that there were points both in the constitution and in the educational system of the University, which might be altered with advantage. From time to time, even during the previous century, isolated reformers had put forward proposals for the removal of an abuse, or the introduction of a progressive innovation. Such attempts, though they ended in failure, and may be thought to have achieved no result more permanent than the addition of a pamphlet to

1850. Æt. 65. collections of ephemeral literature, ought in truth to be regarded as finger-posts set up to mark the road which led to reform. It is conceivable that that road might have been prolonged to an almost indefinite length, had not action been precipitated by the large increase in the number of students after the close of the continental war. It soon became evident that it would no longer be possible to restrain so large a body of young men, representing, to a far greater extent than heretofore, different classes of the community, within the narrow limits of mathematics tempered with a modicum of philosophy; nor to expect them to submit without a murmur to the exclusive enactments of the existing statutes. Again, the passing of the Reform Bill gave a general impulse to the correction of abuses, and it seemed only reasonable that national institutions such as the two Universities should be thoroughly investigated, and remodelled in conformity with modern ideas. But the University, as a whole, was averse to change. It has been already related[1] how a proposal made in 1834 for the removal of religious tests, though energetically promoted by many distinguished members of the Senate, and supported by a large and influential section of the public at large, failed to command a majority among residents; and after its rejection by the House of Lords it was evident that it would be mere waste of time to renew the struggle then, even on the narrow field to which it had been restricted.

Reformers next turned their attention to the studies of the place. A voluntary Classical Examination (established in 1822), had been the first step taken in this direction. It was succeeded by proposals, more or less definite, to offer similar facilities for distinction in theology, history, law, and natural science. Sedgwick, as we have seen, animadverted generally on the Cambridge course of study in his *Discourse* (1832[2]); a suggestion for the establishment of five new triposes was

[1] Vol. i. pp. 417—425.
[2] Ibid. pp. 402—405.

made by Mr Walsh, a resident Fellow of Trinity College (1837[1]); and Professor Whewell advocated a General Tripos in all the Inductive Sciences (1840[2]). No attempt, however, was made to give practical effect to these suggestions until 1848, when the influence of Prince Albert led to the establishment of two new Honour Triposes—the Moral Sciences Tripos, and the Natural Sciences Tripos; together with a scheme for filling the lecture-rooms of the Professors, by compelling every candidate for the ordinary degree to produce a certificate of having attended at least one course of professorial lectures, and passed a satisfactory examination in their subject-matter. In *The Life of the Prince Consort* we read that from the moment of his election as Chancellor the Prince began to make himself thoroughly acquainted with the studies of Cambridge, recognised the importance of extending them, and discussed with several of the leading residents—as for instance, Whewell, Sedgwick, Philpott—the means by which this end might be achieved with the least friction and opposition[3]. The establishment of the new Triposes was succeeded, early in 1849, by the appointment of a syndicate to revise the statutes of the University. 1850. Æt. 65.

While internal reformers were thus cautiously picking their way through the quicksands that beset them, more drastic remedies were loudly demanded from without. In December, 1847, Lord John Russell, then Prime Minister, informed Prince Albert that he was in favour of advising the Crown to "appoint a Commission to inquire into the state of Schools and Colleges of Royal Foundation[4]." A similar Commission had been moved for in 1837 by Lord Radnor in the House of Lords, and by Mr Pryme in the House of

[1] *A Historical Account of the University of Cambridge and its Colleges; in a letter to the Earl of Radnor.* By B. D. Walsh, M.A. 8vo. Lond. 1837.

[2] *Of a Liberal Education in General.* By W. Whewell, D.D. 8vo. Lond. 1840. Part I. pp. 224—228.

[3] *The Life of His Royal Highness the Prince Consort.* By Theodore Martin, 8vo. Lond. 1876. Vol. ii. pp. 114—130.

[4] Ibid. p. 120.

1850. Æt. 65. Commons; and again in the latter house by Mr Christie in 1844. The Prince wrote at length to Lord John, informing him of what was being done at Cambridge, and expressing a hope that he would "pause with the recommendation of a Royal Commission of Inquiry till we have seen whether any good can be effected in the way now proposed to be followed[1]."

Early in 1848 a *Memorial* to Lord John Russell was circulated among "graduates and former members of the Universities of Oxford and Cambridge," and to some extent among Fellows of the Royal Society, setting forth:

> That the present system of the ancient English Universities has not advanced, and is not calculated to advance, the interests of religious and useful learning to an extent commensurate with the great resources and high position of those bodies.
>
> That the constitution of the Universities of Oxford and Cambridge and of the Colleges (now inseparably connected with their academical system) is such as in a great measure to preclude them from introducing those changes which are necessary for increasing their usefulness and efficacy.
>
> That under these circumstances, believing that the aid of the Crown is the only available remedy for the above-mentioned defects, your Memorialists pray that your Lordship will advise Her Majesty to issue Her Royal Commission of Inquiry into the best methods of securing the improvement of the Universities of Oxford and Cambridge.

This document received 224 signatures. Of these Cambridge contributed 133, Oxford 62, and the Royal Society 29. It is, however, noteworthy that only one resident Fellow of a Cambridge College appended his name, and only one Professor. The resident reformers of Cambridge were evidently of opinion that the time for calling in extraneous assistance had not yet arrived. This *Memorial* was presented to Lord John Russell, 10 July, 1848. He received the memorialists with the courteous indefiniteness usual on such occasions; and, probably out of deference to the wishes of Prince Albert, took no action in the matter. Two years afterwards (23 April,

[1] *The Life of His Royal Highness the Prince Consort.* By Theodore Martin, Vol. ii. p. 123.

1850[1]), Mr James Heywood, then M.P. for Lancashire, who had been one of the prime movers in getting up the *Memorial*, moved in the House of Commons, that "an humble address be presented to Her Majesty, praying that Her Majesty would be graciously pleased to issue her Royal Commission of Inquiry into the state of the Universities and Colleges of Oxford, Cambridge, and Dublin." Lord John Russell declined to support the motion, but, he added, "it is certainly our intention to advise the Crown to issue a Royal Commission to inquire into the state of the two Universities of Oxford and Cambridge." It is evident, from what subsequent speakers said, that this announcement took the House by surprise. That the Government had itself been surprised by Mr Heywood's action, and had hastily adopted an unwelcome policy, is evident from Prince Albert's letter to the Vice-Chancellor, Dr Cartmell (27 May): "You are already aware," he says, "that I did not know of the intention of Her Majesty's Government to advise the issue of a Royal Commission in time, before Lord John Russell's speech in the House of Commons, to be able to communicate with the University, or to express any opinion on the proposed course." 1850. Æt. 65.

At Cambridge the news of the Prime Minister's intention was received with alarm and indignation. It is true that he had spoken in a conciliatory strain. "I am glad," he said, "that no such Commission was issued some eight or ten years ago, because, seeing the state in which the studies at the Universities were; seeing how inadequate they were to the then state of knowledge, there would have been some appearance of hostility in issuing a Commission of Inquiry at that time. But at present, if persons are appointed who have belonged to those Universities, who have themselves been educated at them, and who maintain regard and reverence for those seats of education; and if the inquiries

[1] Hansard's *Parliamentary Debates*, Ser. 3, cx. 691—763.

1850. Æt. 65. they are directed to make are made in a friendly spirit, I own I can see nothing but advantage from such inquiries." Further, he addressed a letter to the Chancellor (8 May) written in a similar strain. But the University turned a deaf ear to the voice of the charmer. Within a fortnight after this letter was written the Vice-Chancellor received an *Address*, signed by 156 residents—Heads of Colleges, Professors, Tutors, Lecturers—praying him "to take such steps as the emergency may appear to require, and to consider especially whether it may not be proper to represent to His Royal Highness our Chancellor the interference with our freedom, rights, statutes, possessions, and usages, which appears to be threatened."

Such was the state of feeling in the University when Sedgwick received the following letter from Lord John Russell:

CHESHAM PLACE, *May* 29, 1850.

My dear Sir,

I have asked the Bishop of Chester, and the Dean of Ely, to be Members of a Commission to inquire into the state of the revenues of the University of Cambridge. I feel confident of their assent, and I shall be very much obliged to you if you will allow me to place your name before the Queen as that of a distinguished Professor, who will take part in the labours of the Commission.

I remain, My dear Sir,

Yours very faithfully,

J. RUSSELL.

Sedgwick's sentiments on the whole question, both as it concerned himself and the University, will be best gathered from the following letters:

To Lieut.-Col. Grey.

TRINITY COLLEGE, *May 30th*, 1850.

My dear Sir,

I write in a distracting hurry, for the morning post starts in a few minutes, and I must go to consult the Dean of Ely. Lord John Russell wishes to place my name on the list of the intended Royal Commission to inquire into revenues of the University &c. &c.

Personally I should dislike the task, and it might deprive me of some of my most valued friendships; but, if the Prince wishes me to accept it, I will do so; and, if I do accept it, then I will try my very best to do my duty in it. Pray learn His Royal Highness' wishes. I have not the most distant notion what are our academic Chancellor's feelings on this matter. Do you not think that an old man, who like myself has led a kind of half-monkish life at Cambridge, must be full of prejudices, and little fitted for the task Lord John would put on me? On the other hand it might perhaps be well that some of the Commission should be men who know Cambridge well, and have a natural leaning in its favour. 1850. Æt. 65.

Pray excuse this hurried informal note. I hope you will understand it, and do what is needful for me, and what is best for Cambridge, under the circumstances.

Very faithfully yours,

A. SEDGWICK.

To the same.

CAMBRIDGE, *May 31st*, 1850.

My dear Sir,

The Dean of Ely was unfortunately absent...and I again write, not in so hurried a manner as yesterday, but with very little time before me to save the morning post to London, for I am naturally anxious to give a definite answer to Lord John Russell's letter, which I cannot do before I hear from you.

I have for many years believed that a Commission (Royal or Parliamentary) must before long come down to the old Universities, and that no Prime Minister (whatever his opinions) could long prevent a searching inquiry. About fifteen years since a *Petition* to the two Houses of Parliament was sent from Cambridge, praying for the abolition of religious tests before conferring academic degrees in Arts, Law, and Physic. The present Archbishop of York[1] and myself waited

[1] Thomas Musgrave, at that time Fellow and Senior Bursar of Trinity College. Vol. i. p. 419.

1850. Æt. 65. on your late father, Earl Grey, with this *Petition*, which he soon afterwards presented to the House of Lords. In a long conversation we held with him at the Treasury, he made many inquiries into the working of our system, and he appeared very heartily to agree with a statement made by myself, viz.—that a *searching* Commission, composed of men who loved and honoured our old institutions, but were not blinded to their imperfections, might be of great national importance, and might give additional strength and security to Cambridge. I retain the opinions I then expressed to your honoured father, but not without some modification; for our University has now greatly amplified its course of study, which is perhaps as wide as is expedient; and a Committee of Inquiry into a modification of the University Statutes has been sitting for more than a year, and is making secure though slow progress. It is known (though of course not officially published) that the liberal party in this Committee have, on most important points, had a majority of votes.

Hence I cannot but feel that the intended Royal Commission is rather unfortunately timed. It might well have come sooner; or, under present circumstances, it might well have been put off a year or two, that Parliament might have seen what the University had done spontaneously. I believe however that Government had no choice—that it is now impossible to postpone the Commission—and that Lord John Russell has every wish to send a friendly Commission to the old University. I believe, moreover, that if a friendly Commission be not appointed now, before long an adverse Commission might be sent down to us. Entertaining these views I refused to sign the paper that was forwarded to me by the Vice-Chancellor; and I am convinced that the present opposition to inquiry can only produce doubt, suspicion, and hostility on the part of those who are seeking for public and official inquiry....

I am flattered by Lord John Russell's wish to place my name before Her Majesty, as a fit person for the honour of a

place in the Commission; but I think myself ill fitted for the office, for the following plain reasons: 1850. Æt. 65.

1. I have very interrupted health; I am becoming old; and I never was a good man of business.

2. I have engagements already more than sufficient to employ my leisure, and all my professional work is greatly in arrears.

3. I have three works on the stocks—one almost ready to be launched; but two others in which I have made little good progress. My honour as a Geological Professor requires that the accumulated observations of many past years should not be thrown on one side before they are reduced to some order.

4. If I accept a place in the Royal Commission I know full well that I should forfeit the friendship of many of those among whom I have lived in the interchange of good offices. I should therefore be continually warped in the performance of my plain duty as Commissioner, and I might forfeit the good opinion both of the University and of the Commission, by halting between two opinions.

5. I have contracted very solemn obligations both to the University and Trinity College, under the sanction of an oath. Questions might (and I think would) arise before the Commission in which I might agree with them on general grounds, but might be compelled to differ from them, on account of my anterior obligations to the University or my own College.

These were the special matters on which I wished to consult my friend the Dean of Ely, who has considered them more than I have done. These are some of my reasons for thinking that my name ought not to appear in the Commission. You will kindly mention them in whatever way is best to His Royal Highness. I will, as I stated before, obey his commands; but I cannot help expressing a hope that he will not express a wish that I should accept an office for which I am unfit, for which I really have not sufficient leisure, and which might produce serious discomfort, and perhaps

1850. Æt. 65. dishonour, during the remaining years of my academic life. I have just a spare moment to close this sheet in time for the early post.

Believe me, My dear Sir,

Very faithfully yours,

A. SEDGWICK.

From Lieut.-Col. Grey.

OSBORNE, *May* 31, 1850.

My dear Sir,

I have this morning received, and have lost no time in submitting to the Prince, your letter of yesterday. H.R.H.'s opinion was very much against the propriety of issuing this Commission. But he had no opportunity of expressing it in time to have any effect, as he was ignorant of the intention of Her Majesty's Government till Lord John made his announcement in the House of Commons.

As, however, notwithstanding all that has since occurred, Lord John persists in his intention, it is of great importance, in H.R.H.'s opinion, that the Commission should be composed of men whose station and character would be a guarantee to the University that the inquiry would be conducted in a friendly spirit—having said which I need hardly add that he is most anxious that you should *accept* the offer made to you by Lord John.

The Prince has expressed very fully in a letter to the Vice-Chancellor his opinion as to the course which, as the Government will not give way in this matter, he thinks it will be for the advantage and dignity of the University authorities to pursue under the circumstances, and he would wish you very much to ask Dr Cartmell to show you his letter. As, however, H.R.H. intended it to be communicated to the Senate, you will probably have already seen it.

I trust you have by this time quite recovered the effects of your accident, and remain,

Very faithfully yours,

C. GREY.

To Lieut.-Colonel Grey. 1850. Æt. 65.

CAMBRIDGE, *June 2nd*, 1850.

My dear Colonel,

I replied yesterday morning to Lord John Russell's letter, but unfortunately before I received your note of May 31. Had it reached me before I wrote to his Lordship, my reply would not have been what it was, for I sent a modified refusal to act on the Commission, stating, however, that I had communicated with Prince Albert, and would ultimately be guided by his commands[1]....

But there was another reason (and to me a very cogent one) which I quite forgot to mention in my two letters to yourself. By the severe letter of Dr Woodward's Will I can hold no preferment with my Professorship. It is only by the tacit connivance of the Senate that I continue to hold my Stall at Norwich, and they could, during any full Term, compel me either to surrender my Stall or my Professorship. At present I have nothing to fear from the members of the Senate, for they know that, at a very great personal expense, and after thirty laborious geological tours, I have brought together and placed in the Cambridge Museum, a very noble Collection. They know also, that I have continued to do my yearly duty as a lecturer, and that I always have had a large and earnest class of young men, who were endeavouring to profit by my lectures. But, if I accept the office of Commissioner, I fear the Senate would turn against me, and that some angry member would call on the Vice-Chancellor to do his duty by introducing a grace to compel me to fulfil the condition of Dr Woodward's Will.

I had written so far early this morning, when I was interrupted, and I have since seen the Vice-Chancellor (who read to me the Prince's admirable letter), and the Master of Trinity College, and if I mistake not they think that my fears of losing my Professorship are chimerical.

[1] In the omitted passage Sedgwick recapitulates the reasons given in the above letter to Colonel Grey, dated 31 May.

1850. Æt. 65. I must therefore withdraw or palliate the last objection to my acceptance of the office of Commissioner, and, if His Royal Highness thinks my other objections (as they are stated in this and my second letter) invalid, I will then write again to Lord John, and tell him, that in consequence of the Prince's wishes, I withdraw my former letter, and am willing to accept the honour he has offered me.

If I torment you by writing such long letters, I certainly torment myself, for I have only begun to use my right hand again for about a fortnight, and it does its work not without some pain, and much grumbling on the part of my fractured humerus. I am recovering, but very slowly.

Believe me, my dear Colonel,

Very faithfully yours,

A. SEDGWICK.

From Lieut.-Col. Grey.

OSBORNE, *June* 2, 1850.

My dear Sir,

I was prevented answering your last letter yesterday till it was too late to save the post. The Prince read it with much interest, and, sorry as he is to ask you to do anything to which you express so much dislike, he cannot help desiring me again to say how much he should personally regret your refusal to serve on this Commission, now its issue appears inevitable. He would fain hope that the fears you express of weakening the ties of old friendships by such acceptance would not be realised—sure he is that they *ought* not to be so—that the character which you have established after so many years' connection with the University ought to be a sufficient guarantee to those who disapprove most strongly of the Commission, that you do not accept a place in it in anything but a friendly spirit. H. R. H. thinks it most essential that the Commission should be formed of the friends of the University; and, if the fears of displeasing those who, having disapproved of the issue of the Commission, would now resist it to the utmost, were to be allowed as a

sufficient excuse for refusal to act upon it, where could those friends be found? By accepting, H.R.H. is sure, under existing circumstances, that you will best consult the interests of the University. Much, therefore, as he dislikes urging you to do anything which is unpleasant to yourself, he cannot refrain from once more expressing his hope that you may be induced to answer Lord John's offer in the affirmative. 1850. Æt. 65.

Believe me,

Yours very truly,

C. GREY.

From the same.

OSBORNE, *June* 4, 1850.

My dear Sir,

I have this morning read to the Prince your letter of the 2nd inst., which I received yesterday evening.

His Royal Highness would not on any account have you expose yourself, in consequence of a wish expressed by him, to any such risk as that which you mention as possibly attending your acceptance of the proposal made to you by Lord John Russell. If your fears as to the possible consequences to you are at all well founded, he will at once admit the validity of the grounds on which you decline to act as a Royal Commissioner. But this point can only be decided by yourself, on consultation with those friends who are best acquainted with your University Regulations and Statutes. His Royal Highness can only form an opinion upon the other objections put forward by you; and on these I need only refer you, for that opinion, to my former letters, and repeat that while H. R. H. thinks these objections are not such as should prevent your acceptance, he believes that your nomination as one of the Commissioners would have the best possible effect, and that your services in the Commission would be most valuable.

I am, however, at the same time to repeat, *in the strongest manner*, that nothing could give His Royal Highness more concern than to think that anything said by him should

1850. Æt. 65. induce you to act in a manner which you believe might be prejudicial to your own interests, and endanger the tenure either of your Stall or your Professorship.

H. R. H. hears with great concern of your continued suffering, and trusts, as you say you *are* recovering, that your progress may soon be more rapid.

Believe me,

Yours very truly,

C. GREY.

To Lieut.-Col. Grey.

NORWICH, *June 5th*, 1850.

My dear Colonel,

Your last letter has followed me to this place. I will not again torment you with a long letter; indeed I have nothing more to say, after I have requested you to convey to the Prince the heartfelt expressions of my thanks for his condescending kindness towards me, and for his good opinion of me—alas! a far better opinion of me than I deserve. I mean, by this post, to write to Lord John Russell, and to accept the office of Commissioner; if, after my long letter to him, he still think me worthy of having my name submitted to the Queen for her sanction. I trust that His Royal Highness will permit me to keep your last letter, in order that I may shew it hereafter to any academic friend with whom it may be my fate (while the Commission sits) to come in rude collision. It will prove that I did not seek to thrust myself into the office. I count the cost of what I am undertaking, and I know that the Commission will be abused in good set terms, and without any regard to truth, honour, or reason.

After the Petition for a mitigation of our Tests (to which I alluded in a former note) had been presented to the House of Peers by your late father, a leading article appeared in *The Standard* newspaper, which professed to prove three things: that I was a coxcomb, a sceptic, and a liar. I must, however, conclude, lest I should seem to confirm the last of the three

charges, by contradicting what I have said in the second portion of this note. 1850. Æt. 65.

Believe me,

Very faithfully yours,

A. SEDGWICK.

From Lieut.-Col. Grey.

OSBORNE, *June 7th*, 1850.

My dear Sir,

I have read your last letter to the Prince, and His Royal Highness desires me to thank you most sincerely for the readiness with which, contrary to your own wishes, you have acceded to the desire he has expressed through me, that you should accept Lord John's offer to place you on the Commission to be named for inquiring into the state of the Universities. And His Royal Highness hopes that your acceptance may not entail any of the unpleasant consequences to yourself, which you still seem to fear. Nothing could give His Royal Highness more pain; and if, by shewing my letters, you can remove any misapprehension on the subject, you are perfectly at liberty to show them to any of your friends you please. They will clearly prove that so far from this appointment having been sought by you, it is most reluctantly, and only in deference to His Royal Highness's expressed wishes, that you have withdrawn the refusal which you had in the first instance given to Lord John's offer, and have allowed your name to be placed on this Commission.

Believe me, My dear Sir,

Ever very truly yours,

C. GREY.

The remaining incidents of this year are recorded with sufficient minuteness in Sedgwick's letters. It should be premised that he spent the greater part of the summer at Cambridge, putting the finishing touches (at last!) to the new edition of his *Discourse*. "I have been leading a very dull, uniform, yet busy, life at Cambridge," he wrote, "but, thank

1850. Æt. 65. God! my book is finished—a fat volume of nearly 800 pages!" In August came the meeting of the British Association at Edinburgh, at which he read the paper *On the Geological Structure and Relations of the Frontier Chain of Scotland*, to which reference has been already made[1]. This was succeeded by a short tour in Scotland with Murchison. Lastly, the Michaelmas term at Cambridge brought its usual tale of work, interrupted, to some extent, by the first sittings of the Commission.

To Miss Fanny Hicks.

CAMBRIDGE, *July 4th*, 1850.

Dear Fanny,

So you want to know all about the Queen's party. We assembled in the great picture-gallery of the Palace, and the arrival of the Royal guests was the best part of the evening's work. The old Duke came very early, and looked as brisk as a young man of twenty-five. He was full of life and spirits, and looked as if he meant to live for ever. There were multitudes whom I knew, and multitudes whom I knew not—Court ladies glorious to behold and shining in diamonds —officers of state—weather-beaten generals and admirals—foreign ambassadors—Turks and Nepaulese!

By the way the Nepaul party were the smartest fellows there. They wore a kind of Oriental tunic spangled with lace, a gorgeous sabre, slippers of gay colours, and a kind of flat turban covered with gems and pearls, above which rose in front a circle, (about the size of a small saucer) literally covered with diamonds surrounded by a ring of large emeralds. Over this blazing circle waved a kind of crest, formed of the tails of the bird of Paradise. They speak not a word of English; but several officers who had served in India were able to talk with them, and they seemed cheerful and courteous. Their mode of salutation was first a low bow, after which they raised the right hand to the forehead, and then gently let it down again.

[1] See above, p. 146.

The concert began at ten. The Queen of course sat on the front seat, a little on the left side. There was no instrument but a grand piano touched by Costa, and we had six or eight of the first singers from the Opera, including Grisi, Lablache, and Mario. First act over, the Queen went to the supper-room. You never saw such a blazing sideboard! What think you was my royal supper? Two cups of very weak black tea and a biscuit. Supper over the Queen returned to the grand saloon. We made a lane for her, and she bowed to us all, we bending our backs till they crackled like castanets. She also shook hands with many of the ladies. Then followed the second part. So soon as it was over I walked off. The night was glorious, and the moon was shining over the towers of the Abbey. I therefore entered the Park, and walked to the Athenæum Club down the Mall—enjoying the fresh breeze and the delicious moonlight. There! I have done my paper, so good night. 1850. Æt. 65.

Ever affectionately yours,

A. SEDGWICK.

To Miss Isabella Sedgwick.

FOOT OF LOCH LOMOND, *August 12th*, 1850.

Dearest Isabella,

Here I am at a snug inn, waiting for the next steamer to convey me up Loch Lomond. I remained at Cambridge till I had finished my book, and corrected the last proof-sheet; so I did not reach Euston Square station, on my way to Scotland, till the morning of August 2nd. We ran down to Edinburgh in thirteen hours! I remember my weary journey to the Scotch capital in December, 1824, when we were two entire nights out, and a part of a third night!

The following day I devoted to several excursions, for the sections of the British Association did not assemble on that day. I was domesticated with Bishop Terrot[1], whom

[1] Charles Hughes Terrot, Trin. Coll. B.A. 1812, afterwards Fellow. He was made Bishop of Edinburgh in 1841.

1850. Æt. 65. you saw at Norwich last year. On Sunday evening I drove to Woodville, a sweet cottage under the Pentland Hills, now the property of my excellent friend Dr Alison, but I returned early next morning. Monday and Tuesday *were* busy days! Committee meetings—discussions at the sections—dinners—public speeches—lectures—exhibitions of works of art and science—etc. etc. filled them from nine a.m. till midnight.

On Thursday I examined a noble collection of fossils, and there met the Duke and Duchess of Argyll. I quite started when the Duchess came up to me and held out her hand, telling me I was an *old acquaintance*. 'You don't remember me,' she said; 'but I remember your kindness to me at the Queen's coronation.' 'Then,' said I, 'you must be the living representation of a little girl who several times sat upon my shoulder during the ceremony.' 'Yes,' she said, 'I am the very person, and without your help I should have seen nothing. So now you *must come* and see me at Inverary Castle.' I said that the visit would be impossible, however much I should be delighted to wait on her Grace. Impossible things do, however, come to pass; and to-morrow I mean, if all be well, to go to Inverary Castle. Good morning! I am interrupted.

Monday, 3 P.M.

Oh! what a charming run in a steamer from the foot of the lake to a little inn called Inversnaid! But let me turn back to my journal. After the collection of fossils I drove with Murchison to the Lord Advocate's, with whom we remained all night. Next morning we went to the nearest station, and thence by the northern railroad to Dumblane[1]....

INVERARY CASTLE, *August* 14.

Yesterday morning was fine but hazy. We crossed the lake to Tarbet, and there met Mr Prescott the American

[1] The portion omitted describes a visit to the field of Sheriff Muir, Loch Katrine, etc.

historian. We joined him, and hired an open carriage, in which we drove through Glen Croe, a very fine Argyleshire pass; but not equal to the famous pass of Glencoe, which I saw in 1827. At the head of Loch Fine we hired a boat, in which we ran down to the shore just under Inverary Castle. The scenery is enchanting, but on a less scale than that we had left behind: but still the country is much broken, and the hills round the castle are clothed with magnificent woods, and from the terrace you command a charming view of Loch Fine. We have had a most kind reception, and an excellent dinner, and a good deal of chat afterwards. I had a wrangle with Prescott, who contended that the blacks are an inferior race of animals, and I think the company was on my side. About 12 I retired, much fatigued, but I am up first, and before breakfast I hope to walk to Inverary to put this letter in the post. After breakfast the Duke, Mr Howard (Lord Carlisle's brother), and Sir R. Murchison go to the moors. I must remain behind to finish my wrangle with Prescott[1], and perhaps to have a short drive with the Duchess through the park. To-morrow, or at latest the day after, I must find my way to Glasgow, and thence to Dent. God bless you! 1850. Æt. 65.

To Miss Fanny Hicks.

DENT, *August* 19, 1850.

...On Friday morning I left Inverary, not without sorrow; and I had a glorious drive through the Devil's Glen to Loch Goil, and thence down to Loch Long and the Firth of the Clyde, and so up to Glasgow. Saturday I started at 10 a.m. by the express. It does not pull up at Low Gill, so I went on to Kendal, where I halted a few hours, during which they contrived to book me for a lecture on Friday next. Will you come and hear me? I reached Dent about half past nine,

[1] These conversations were not forgotten by Prescott. The Duke of Argyll, writing to Sedgwick, 28 May, 1852, says: "We have had a letter lately from Prescott, who always mentions with wholesome respect the terrible Professor of Geology, to whom he always desires to be remembered."

1850. Æt. 65. and found them all well. Yesterday was dreadfully wet. I gave them in the morning an extempore sermon of three quarters of an hour! Were you not well away? So now you have my latest news. Only this post has brought me a letter from Mr Mc Coy at Cambridge, which will make it necessary for me to return immediately. Both he and a London artist are working in my Museum, and at my expense, and they cannot get on without me. So off I must go in a few days at longest, and I must put off my Scalby[1] visit either to October, before I begin my lectures, or till Christmas, when I can remain a little longer. There is no help for this, my dear Fan, for the business presses....

To Lieut.-Col. Phipps.

CAMBRIDGE, *September 9th*, 1850.

My dear Colonel,

The rheumatic gout has laid hold of me, and mutilated every faculty of mind and body, so that I am at present hardly responsible for my actions. I have just sense enough left to order my London bookseller to forward a bound copy of my brain-monster to Balmoral; and I hope you will give it to the Prince with the best expressions of respect and gratitude which you can muster on the occasion in my behalf....

The Prince will never think of reading my book through; but should he turn over certain pages, and see the freedom with which I have attacked some great German names, I hope he will not be angry with me. I think His Royal Highness (should he glance at the extracts from Oken) will see that I have quoted matter to justify all that I have said. In every branch of learning and science the Germans are fighting in the front rank, and doing inestimable service; but my conviction is that some of their speculative philosophers have done, and are doing, much mischief.

The Royal University Commission is now out, and I rejoice to see the names of the persons with whom I shall

[1] The living near Scarborough held by the Rev. James Sedgwick. Vol. i. p. 38.

have to act. They are all my personal friends; and we shall, I trust, be able to do our duty without wrangling, or any material difference of principle or opinion.... 1850. Æt. 65.

Ever truly yours,
A. SEDGWICK.

The Commissioners to whom Sedgwick refers were the Lord Bishop of Chester (Dr Graham, formerly Master of Christ's College); Dr Peacock, Dean of Ely; Sir J. F. W. Herschel; and Sir John Romilly. They appointed as their secretary Mr Bateson of St John's College, afterwards Master.

It would be beside our purpose to give a detailed account of the "brain-monster" alluded to in the last letter. The *Discourse* has been already criticised[1]; and Sedgwick's object in writing the *Preface* has been described by himself in one of his letters to Hugh Miller[2]. Still—on account of the author's natural interest in a work on which he had bestowed such protracted labour, as well as the importance of the subjects discussed in it—we must briefly describe the fresh subject-matter, from the mere extent of which the new edition may be regarded as an original work.

It was obvious that a *Discourse on the Studies of the University*, preached eighteen years before, could not be republished without some prefatory remarks. The argument from design, as stated in the first section, needed extension and reinforcement in consequence of the popularity of such a book as the *Vestiges;* "the mischief of modern pantheistic doctrines when applied to physical, moral, and religious questions[3]," had to be exposed; while the second and third sections, treating of the literary, ethical, and metaphysical studies of the University, had lost much of their point through recent academic changes, and required explanation and defence.

This *Preface*, or *Preliminary Dissertation*, is divided into two parts. The first begins with a formal refutation of the

[1] See above, Vol. i. pp. 402—405.
[2] Printed above, p. 159.
[3] *Preface*, p. cccxxiii.

1850. Æt. 65. views advanced in the *Vestiges*; and is, in fact, little more than the article in *The Edinburgh Review* expressed in somewhat different language, and expanded so as to be an answer to a second work by the same author called *Explanations*, in which a reply to the Edinburgh Reviewer and other critics had been attempted. The sections dealing "with the author's pretended facts," are succeeded by a discussion of his "adopted philosophy," and, says Sedgwick, "my remarks apply to the whole school of modern Materialists, so far as I comprehend their doctrines." This leads to the "conditions of the mind that have led men to deny a Personal Creator," atheism, pantheism, the absurdities of phrenology, and the support which the author of the *Vestiges* sought to obtain for his theory from the calculating machine invented by Mr Babbage. From these subjects we pass, by a somewhat abrupt transition, to the ideal theory of Locke, and to idealism generally. Sedgwick was led to this partly by what he had advanced in the *Discourse*, partly by the recent appearance of Oken's *Physio-Philosophy* in an English dress under the auspices of the Ray Society. The lofty flights of the transcendental German,

> who taught to his profit and fame
> That something and nothing are one and the same,

are treated with unsparing ridicule. "I have read his Work," says Sedgwick, "and I have striven to perceive some glimmerings of steady light among the mists of his first sixty or seventy pages; and nothing have I seen but an *ignis fatuus* playing, here and there, on a darkness that is palpable and impenetrable[1]." Justice is, however, done to Oken so far as his speculations were based on experiment, and the next section gives a sketch of the vertebral theory of the skull, with the archetype and homologies of the vertebrate skeleton, as developed by Owen from Oken's observations. Such a theory, as exhibiting evidence of a scheme conceived in the Divine Mind from the beginning, and adapted to the wants of His creatures in

[1] *Preface*, p. cciii.

successive acts of creation, was unhesitatingly accepted by Sedgwick. But on this point—and especially on the geological questions with which the theory had to deal—he shall speak for himself. 1850. Æt. 65.

In every successive *Fauna* of Geology we find the same kind of animal subordination we meet with now in the living world; and the very earliest Genera and Orders were not organically inferior to the Genera and Orders of this day which we derive from corresponding grades in the scale of Nature. Nay, sometimes the primeval Genera and Orders are organically superior to their corresponding types in the living world. Again, the general organic plan of Nature has been at all times not merely analogous, but identical. If Genera, Orders, and Classes be now distinct and separate, they were equally distinct and separate in all periods of the old world. There is no development on the lines of organic ascent such as to produce confusion: but if the *theory of development* were true, there must be, on some parts of the organic scale, such a blending and penetration of types as would blot out and obliterate our lines of separation between Genera and Orders and Classes. But we look in vain for any semblance of such obliteration: and if we try to complete our present scale, by interpolating within it the organic types of the old world, we find no incongruity in our task. The oldest types fall into their place in the general scale, as naturally as the newest. We may, by this interpolation, improve and perfect our general scale; but we break not down the barriers between Genera and Orders and Classes. They continue as strong and as abruptly marked as they were before.

The elevation of the *Fauna* of successive periods was not therefore made by transmutation, but by creative additions; and it is by watching these additions that we get some insight into Nature's true historical progress. Judging by our evidence (and by what else have we any right to judge?) there was a time when *Cephalopoda* were the highest types of animal life. They were then the *Primates* of this world; and, corresponding to their office and position, some of them were of noble structure and gigantic size. But these creatures were degraded from their rank at the head of Nature, and Fishes next took the lead: and they did not rise up in Nature in some degenerate form, as if they were but the transmuted progeny of the *Cephalopoda;* but they started into life (if we are to trust our evidence) in the very highest ichthyic type that ever was created. Following our history chronologically, Reptiles next took the lead at the head of Nature—not by transmutation, but by creative addition—and (with some almost evanescent exceptions) they flourished during the countless ages of the Secondary Period as the lords and despots of the world; and they had an organic perfection corresponding to their exalted rank in Nature's kingdom; for their highest Orders were not merely great in strength and stature, but were anatomically raised far above any forms of the Reptile Class now living in the world. We have

1850. Æt. 65. seen, however, that this Class was, in its turn, to lose its rank at the head of Nature; and what is more, we have seen that it underwent (when considered collectively) a positive organic degradation before the end of the Secondary Period, and (if we may trust our evidence) this took place countless ages before terrestrial Mammals of any living type had been called into being. Mammals were added next (near the commencement of the Tertiary Period), and seem to have been added suddenly. Some of the early extinct forms of this Class, which we now know only by ransacking the ancient catacombs of Nature, were powerful and gigantic; and we believe they were collectively well fitted for the place they filled. But they, in their turn, were to be degraded from their place at the head of Nature; and she became what she now is, by the addition of Man. By this last addition she is more exalted than she was before. Man stands by himself the despotic lord of the living world: not so great in organic strength as many of the despots that went before him in Nature's chronicle, but raised far above them all by a higher development of the brain—by a framework that fits him for the operations of mechanical skill—by superadded reason—by a social instinct of combination—by a prescience that tells him to act prospectively—by a conscience that makes him amenable to law—by conceptions that transcend the narrow limits of his vision—by hopes that have no full fruition here—by an inborn capacity of rising from individual facts to the apprehension of general laws—by a conception of a Cause for all the phenomena of sense—and by a consequent belief in a God of Nature.

Such is the history of Creation. It is not the dream of a disordered fancy, but an honest record of successive facts that were stamped by Nature's hand on the chronicle of the material world. Where our chronicle is broken and defective, we may acknowledge our ignorance and be silent; or we may speculate analogically on points where true historical evidence is wanting. We may, in part at least, endeavour to explain what is unknown by what is known; for we believe that Nature has been consistent with herself. We are certain that there have been great successive changes in the surface of the earth—that some of these changes were slow and gradual—that others were brought about by the sudden eruption of the pent-up powers of Nature, and were comparatively rapid and violent. But each change was in subordination to the general laws of material Nature, and was, we believe, but a prelude to the material conditions which followed, till physical Nature became what she now is. We also believe that the successive creations of the organic kingdoms were in harmony with these physical changes in the surface of the Earth—and that the Fauna of each period formed a kind of prelude to the Fauna that was to follow, till living Nature became what she now is. Nay, we can sometimes discern this kind of organic relationship or analogy, not merely in a broad statement of facts (like some of those above enumerated), but in a closer comparison of the Genera and Orders that enter into the *Fauna* of two successive periods. Thus the gigantic *Edentata* (the Glyptodons and Mylodons, &c.) in the super-

ficial drift of South America, formed a prelude to the part taken up, in our days, by the burrowing Armadillos and the climbing Sloths; and the gigantic Marsupials in the caverns of New Holland have a like relation to the Kangaroos now bounding on the surface of the country. But, while we admit all this, we are not so mad as to affirm that the giants of the former period were the natural progenitors of their dwarfish representatives in the living world. What we do believe is, that the past history of Nature, as it is seen in her Geological records, though strange and altogether unanticipated in the speculations of human reason, is consistent and coherent; and that, before the creation of all worlds, there was an *archetype* of Nature (dead as well as living, past as well as present) in the prescient mind of God[1]. 1850. Æt. 65.

In the last section of this first division of the *Preface* Sedgwick returns once more to his old antagonist; reasserts the argument for final causes; discusses the credibility of miracles and the rival views of Paley and Hume; and finally proclaims induction to be "the fountain of all material truth."

The second division of the *Preface* opens with a sketch of the evidences of Christianity. The reader is not to expect a formal treatise—but only a reference to one or two points which "seem to arise quite naturally out of the previous discussions—a series of short hints, thrown out in sincerity and good-will, for the student's guidance[2]." This sketch is succeeded by a masterly exposition of the scope and meaning of the principal arguments advanced in Butler's *Analogy*.

This sketch concluded, Sedgwick passes to the existing condition of the University—moral, intellectual, and material. He begins with the probable results of the introduction of the new Triposes—of which he cordially approved. "Some men," he says, "fear that our old and severe intellectual discipline may suffer by these changes. Had I partaken of these fears, and believed that our stern mathematical studies, which ever since Newton lived amongst us have been the glory of Cambridge, would descend from their high place, as a natural consequence of the Graces last year passed by the Senate, I should then have been almost willing to cross England

[1] *Preface*, pp. ccxv—ccxix.

[2] Ibid. pp. cclvi, ccciii.

1850. Æt. 65. barefoot to record my vote against them. But we have nothing to fear from this quarter. Our highest prizes will still be carried off by those who reap their honours in the Mathematical and Classical fields....It is not excessive activity, but an unhealthy deathlike stagnation, that is the bane of an Academic body like our own[1]." Thence he passes to the beneficial labours of the Philosophical Society, and their practical results in Professor Airy's work at Greenwich; to the extension of the Museums belonging to the University, and of the buildings of the Colleges; to the increase in the number of the undergraduates, and the changes for the better in their pursuits and habits since he came to Cambridge at the beginning of the century. From the condition and prospects of the University the transition to the religious movements of the day is easy and obvious; and the *Preface* concludes with a denunciation of the Oxford Movement and the principles of the *Tracts for the Times*, then recently published. In writing this Sedgwick was doubtless stimulated by his dislike of the Cambridge Camden Society, the later developments of which he had strenuously—not to say violently—opposed. The unfortunate Society comes in for its share of adverse criticism[2].

Here the *Preface* ends, but not the volume; for, as soon as Sedgwick's arm was sufficiently recovered to allow him to resume his pen, he set to work upon *A series of notes to the preface*, which occupy one hundred and forty-six pages at the end of the *Appendix*. They deal with most of the important subjects touched upon in the *Preface*, strengthening and explaining the positions there brought forward, or supplying valuable illustrations.

The book, like the article in *The Edinburgh Review*, is a storehouse of arguments against transmutation of species; and further, against the tendencies of modern speculation towards materialism. As such it will have a permanent historical value. But it must always be remembered, in

[1] *Preface*, p. cccxxv. [2] *Preface*, p. cccxcvii.

justice to Sedgwick, that his arguments ought to be weighed against the statement of facts as then known, and the evidence then offered; and not against the data now available in support of theories of evolution and interpretation. At the same time we must allow that the form of the book is unfortunate. The perpetual recurrence to the *Vestiges* gives it an air of having been written to serve one purpose only, and that a transient one; while the dispersion of the matter through the *Discourse*, the *Preface*, the *Appendix*, and the *Supplement to the Appendix*, wearies the reader, and prevents him from feeling the full force of his author's arguments. Sedgwick's friends were not slow to perceive, and to draw his notice to, these defects. Lord Brougham spoke of "the somewhat amorphous—at least oddly-proportioned—book;" Professor Owen wrote: "It reminds me of the germ of a goodly tree between two fat cotyledonal leaves. I hope you may be spared to expand it into a form agreeable with its true nature and importance, and bearing a title that would attract hundreds to possess and profit by it, who now, I fear, will scarcely suspect that in an Essay on the Studies of the University there is the best work on the principles of Revealed and Natural Religion extant in our language;" and Mr W. J. Conybeare, son to his old geological friend and teacher, regretted that "discussions of so much value, and of such permanent interest, should have been made to appear dependent upon so flimsy a book as the *Vestiges*. May we not hope," he said, "that some time or other you will recast all that part and publish it in a separate and independent form? The extracts from Hegel and Oken are most delicious, specially the latter, over which my wife and I have enjoyed some very exhilarating laughs." 1850. Æt. 65.

The arrangement of the Woodwardian Museum, to which Mr Mc Coy had given his time almost uninterruptedly since 1846[1], and which he had fortunately nearly completed, was in this year brought to an abrupt close by his appointment

[1] See above, p. 118.

1850. Æt. 65. to a Professorship in the Queen's College at Belfast. His work in Cambridge had been thoroughly congenial to him, and he left it with unfeigned regret. "I feel as if parting from all I care for, leaving you and the Museum," he wrote to Sedgwick, soon after his arrival at Belfast[1]. His engagements there, however, did not wholly sever his connection with Cambridge. He had undertaken in 1849, by a private arrangement with Sedgwick, to describe the British Palæozoic Fossils in the Woodwardian Museum; and considerable progress had been already made with the text and illustrations of the proposed work. They were both anxious to complete it, and therefore Mc Coy undertook to spend the spring and summer months of each year in Cambridge. It was then expected that no long period would elapse before the whole could be published; but from various causes it was frequently retarded, and was barely finished when Mc Coy accepted a Professorship at the University of Melbourne in 1854. To this work, and to the important preface contributed by Sedgwick, we shall return in a future chapter; meanwhile it is gratifying to record that the arrangement of the Museum received cordial recognition from the Inspectors of 1850. After noticing the condition of Dr Woodward's cabinets, they proceed:

> We cannot let the opportunity pass without noticing the valuable Collection, commenced by the late Professor Hailstone, and so greatly augmented by the exertions of the present Woodwardian Professor and his friends. The classification, which is now almost entirely completed, does the greatest credit to the accurate knowledge and unwearied industry of Mr M^c^Coy. The arrangement which he has made under the judicious directions of the Professor

[1] Sedgwick had a very high opinion of McCoy. Writing to Murchison, 6 October, 1851, respecting the post in the British Museum afterwards filled by Owen, he says: "Whatever happens, it is, I verily believe, a matter of the very first importance to secure to the British public in some form or other the services of a man like McCoy—an excellent naturalist, an incomparable and most philosophical palæontologist, and one of the steadiest and quickest workmen that ever undertook the arrangement of a Museum. You have seen his Cambridge work, and where is there anything to be named with it, either in extent or perfection of arrangement!"

1850. Æt. 65.

will render the Museum practically of the greatest use and value henceforward to all those who are studying the subject; and we consider that the thanks of the University are due to the Professor for having secured the assistance of so able a man, and more particularly when we recollect that this new order of things has been almost entirely effected at the personal expense of the Professor himself.

At the same time it is to be hoped that some means may be hereafter found of more liberally assisting him in adding to and perfecting this most valuable Collection. Several valuable fossils have been in the present year added to the Museum from the neighbourhood of Edinburgh. We would suggest that the cost of these should, if possible, be defrayed by the University.

The two following letters will conclude our account of the year 1850.

To Miss Isabella Sedgwick.

NORWICH, *October 1st*, 1850.

...I have seen most of the places you mention; but only looked at them over my left shoulder, for I was travelling to see the rocks, and not to halt at the cities. I agree with you that the Dresden gallery is the most interesting of all you have had the happiness of studying. Next to the Madonna di San Sisto (which is out of all comparison the most glorious painting I ever beheld) the most valuable pictures at Dresden are the Correggios, though I did not admire them so much as I wished to do, and I think you are right in selecting his Magdalen as the object of your special love. And what a glorious city is Prague! Edinburgh, Prague, and Lyons are, in my mind, the three most interesting and picturesque cities I have ever seen. Is there not something oriental in the ponderous barbaric grandeur of the palaces of Prague? Saxon Switzerland I have seen far better than you have done, for I hammered my way through it, partly on foot. The greatest pleasure of a tour is not at the moment of first enjoyment, but in the store of knowledge and happy thoughts with which it fills the mind. And these happy memories become a part of yourself, and no one can rob you of them. Besides, your tour will give you new sympathies with friends and with books, which are your

1850. Æt. 65. private friends. But these things we can talk about till we are tired—rest—and then talk about them again and again. Thank God! you are come back safe, and I trust with renovated bodily health....

To Rev. G. H. Ainger.

CAMBRIDGE, *December 26th*, 1850.

My dear George,

...Many thanks for your sermon. I agree heartily with most of it, though I think I should not agree with you about the right of private judgement. You are too much of a high churchman for me. If the right did not exist our Reformation has no principle to stand on. I adopt, on this point, Bishop Marsh's views, which I think are sound, and reasonable, and true. The right of private judgment may have led to folly and schism and fanaticism. But what of that? Liberty leads to republicanism and licentiousness, and are we on that account to seek the despot's collar? I verily believe the world, I mean the Christian world, would be ten times worse than it is were it kept to the semblance of uniformity by church authority. Forced unity is not spiritual unity. I take for my definition of the Church Catholic the words of one of our canonical prayers, the 'bidding prayer' (as it is sometimes called), used before the sermon on state occasions, and always in Cathedrals. In my definition—the orthodox definition of our Church—a good sincere Presbyterian is as true a member of the Catholic Church as is a member of the Church of England. Don't think that I undervalue our Church polity, and don't think it better than the Presbyterian. 'Tis not so. But Church polity is not Christianity; it is only one of the helps to it....

I caught my terrible cold at Windsor, whither I went the day of our Address[1] to the Queen. We had a gracious reception, and a most regal lunch; but they did not save me

[1] An address against Papal Aggression, presented to the Queen 10 December, 1850.

from one of the worst colds I have ever endured within the period of my memory.... 1851. Æt. 66.

Ever, my dear George,
Your affectionate friend,
A. SEDGWICK.

The winter of 1850—51 was spent by Sedgwick, as so many previous winters had been, in solitude and sickness. In the previous autumn he had suffered from his "first autumnal attack[1]" of gout, which hitherto had afflicted him only in the spring, but henceforward was to be his unwelcome attendant during the greater part of the year. Subsequently a long and wearisome attack of influenza kept him a prisoner under doctor's orders. As usual under these circumstances, he took to literature. Accident led him to Richardson. "Well!" he wrote, "it struck me that, after all, *Clarissa* might be made into a gentle *pièce de résistance*—a kind of cushion for my cold to lean upon; so I got it from the public library, and once more blubbered over it almost as much as I did about fifty years since. Indeed I read it pretty honestly, only skipping a little here and there, when the author proses too much for a modern reader. It *is* a wonderful novel, and exactly answered its purpose, but you must not attempt to read it. 'Tis infinitely too long, unless you have an influenza of six weeks, and nothing better to do, which I trust will never be the case so long as you live[2]."

The year which began thus inauspiciously was one of bustle and excitement, and Sedgwick, whether well or ill, was compelled to lead what he once happily described as "a shuttlecock existence." His duties as Commissioner took him frequently to London, and compelled him to pass long and weary days in Downing Street; while his position as Prince Albert's secretary entailed upon him numerous social engagements which he enjoyed while they lasted, but which

[1] To R. I. Murchison, December, 1850.
[2] To Miss Isabella Sedgwick, 26 January, 1851.

1851. Æt. 66. occupied his time and over-taxed his strength. He was beginning to feel his years, and, had he not been an unthrifty economist of his powers and his time, he would have sought repose rather than fresh employment.

Early in February he spent two days at Windsor Castle. Her Majesty and the Prince received him with gracious kindness: "everything went off as smooth as silk; everybody seemed perfectly comfortable and at his ease; and the Queen seemed the merriest and happiest of the whole party. She looks the picture of good health, and realises that charming description in the Bible where a woman is called 'a joyful mother of children'[1]."

The next letter needs no explanation.

ATHENÆUM CLUB, *February 12th*, 1851.

My dear Mrs Stanley,

I had a very busy day yesterday—beginning very early and ending rather late—and I returned to Suffolk Street in a state of great fatigue. But warm tea did wonders, and after dissolving my curdled brain in its fumes, I sat in an arm-chair, put my legs on another, and read through the *Memoir*[2] without halting; except indeed that I was sometimes stopped by a sudden dimness in the sight when the tale told me of events that must ever live in my memory, and reminded me of persons whom I loved, and whom I must never see again in this world. I think the *Memoir* excellent. I wished some parts to be expanded; to know, for example, a little more of the Bishop's domestic life, and to see one or two specimens of his correspondence with those whom he most loved and confided in. But perhaps in this respect I was unreasonable....

In the place where the *Memoir* appears it is but an introduction to the *Essays* &c. that follow (*Essays* by the way is not the right word; but let it pass). The *Memoir*

[1] To Miss Isabella Sedgwick, 6 February, 1851.

[2] Arthur Stanley's *Memoir* of his father. See above, pp. 164, 165.

1851. Æt. 66.

therefore is confined to the unfolding of his clerical character, and his practical views of clerical duties, as shown in his parochial life at Alderley; and afterwards to the illustration of his principles and conduct during the twelve years of his episcopal administration at Norwich. Read with this limitation, the *Memoir* is excellent. It brings out his motives and character, and puts them exactly in the right point of view. Hence it will do his memory good service; and it will, I trust, do a still higher service by helping to teach us lessons of liberality (in the *right* sense of that word), and mutual love, and forbearance of rash judgments in judging one of another on points where we cannot make up our minds to agree. In all the essential points of practical conduct in clerical life the dear Bishop's example was admirable. He was a specimen of a warm-hearted, high-minded, liberal, Christian gentleman, such as we (alas!) very seldom can meet with, or even hear of; and Arthur has done well in perpetuating the influence of such an example; which may tell upon, and do good to, and liberalize and christianize (as a secondary help) the clergy of the Church of England long after all those persons are dead and gone who (like myself) have had the happiness of knowing and loving their diocesan.

This is exactly the time for such a biography—when men are idolizing shadows, and mistaking what all men of sense think unessential, and what many think but fooleries and fopperies, for the simple truths of the Gospel, and a life of faith and purity and love....I think there should have been a sentence or two on his power as a good-tempered and humourous artist....I return the book with my very best thanks. I daresay when I am in Cambridge this evening I shall find a copy on my table from my bookseller.

It may seem very strange, but it is true, that when you or Miss Stanley asked me about the letter[1] from which Arthur has taken an extract near the end of the *Memoir*, I had forgotten all about it. And even now I cannot bring before

[1] Printed above, p. 164.

1851. Æt. 66. my mind's eye the place where I wrote it. I doubt not that I wrote honestly; yet the extract is inaccurately expressed in one sentence, and another contains an untruth. The choristers did *not* chant a Psalm as I have stated; but they *did* chant the solemn sentences in the opening of the service. How hard it is to be right in all minute points, even for an eyewitness who has no motive or wish to write anything but plain truth! May God bless you, my dear Mrs Stanley, and make you happy. The *Memoir* may revive painful remembrances, but it must and ought to make you happy, by giving you new materials for Christian hope, and steady anticipations, through God's favour, of enjoying hereafter the society of those you loved here in the presence of a Redeemer, and in a place where sorrow has no entrance, where wailing is never heard and tears are for ever dried from the eye.

Ever affectionately and gratefully yours,

A. SEDGWICK.

At the Anniversary Meeting of the Geological Society (21 February) the President, Sir Charles Lyell, presented to Sedgwick the Wollaston Medal, awarded to him by the Council "for his important and original researches in Geology, more especially for his Memoirs inserted in the *Transactions* of the Geological Society of London and Philosophical Society of Cambridge, developing the structure of the British Isles, the Alps, and Rhenish provinces."

This public recognition of Sedgwick's position as a geologist suggests an examination of the work accomplished by him since 1838; and it must be understood that what we are now about to say is a continuation of our remarks at the close of the former volume[1].

The period between 1838 and 1851 was important in many ways. Though Sedgwick did not so frequently publish the fresh results of what he had just been doing, he still continued

[1] Vol. i. ch. xi.

to bring forward much that was new, and much that was the result of original research. He was now engaged chiefly in filling in details, in defending the positions he had formerly taken up, and in correcting errors into which he had fallen, either from generalising on insufficient data, or from having too hastily accepted the incorrect sections of others. 1851. Æt. 66.

The beginning of this period was memorable for the appearance of that splendid work *The Silurian System* of Murchison. Carefully worked out, fully illustrated, giving the results of an examination of the fossils by some of the best palaeontologists of the day, and embodying the results of much of the lifelong work of such shrewd observers as Lewis of Aymestry and Williams of Llandovery, it is a work the publication of which may well be claimed as an epoch-marking event in the history of scientific progress.

The Geological Society would naturally try to avoid the confusion arising from the same names being used in different senses, or from different names being applied to what the consensus of original observers pronounced to be the same; and their Publication Committee would, where possible, modify the terminology of papers referred to them in accordance with the received nomenclature when such a course did not alter the general statement of facts; and, where the results of observation did not accord with the theories involved in such nomenclature, would, in the interests of science, endeavour to induce the authors to alter or suppress such parts of the paper. This would not produce immediate results. The bearing of it would only become apparent by degrees. But, as Sedgwick's Bala beds included nearly the whole of Murchison's Lower Silurian, it was obvious that sooner or later the difficulty of correlating the rocks of North and South Wales on the lines so far followed would be seen to be insuperable.

This explanation is necessary in order to understand Sedgwick's Cambrian and Silurian papers of this date. Some of the difficulties arise from his straining the evidence to try

1851. Æt. 66.

to make it fit with sections in the accuracy of which he could not but believe. "If that be true, then it must be thus explained," was what he had to say over and over again. Further, we find that his papers and illustrations are absurd in many respects unless we remember that a new nomenclature was substituted for his in many cases. For instance he was made to say that the Lower Silurian stretched from Bala Lake to the Menai Straits as shewn in the Map appended to his paper read before the Geological Society in November, 1843[1]. That map shows what Sedgwick included in his 'Protozoic,' but not what either Sedgwick or any one else *then* called Lower Silurian. The truth was that Mr Henry Warburton and the Publication Committee did not know the ground, nor understand the points of difference. No one did at that time except Murchison and Sedgwick themselves. There is plenty of internal evidence, even if we had not other means of knowing it, that Sedgwick did not finally revise this paper or its illustrations; for there are foolish mistakes, such as making Section I. start from Arenig Fawr instead of from the other Arenig; the omissions on the map of the Berwyn synclinal of Silurian rock, though it is clearly shown and marked σ on the sections, and referred to in the text; common names wrongly spelt in the tables and elsewhere, and so forth. In this paper, however, we find Sedgwick working out the details of the Bala Series, and pointing out, by reference to fossils determined for him by Salter and Sowerby, the succession and reappearances of the different zones.

The work that chiefly occupied his thoughts and time was the Cambrian and Silurian; but he did not confine himself to that, for he had the Geology of the neighbourhood of Cambridge forced upon his attention, and he was still following up the Devonian with Murchison. They had proposed, as explained in their previous papers, to place all the older slates of Devonshire, and a considerable part of the slate rocks of Cornwall, in a group intermediate between the

[1] Published in the *Journal of the Geological Society*, Vol. I. pp. 5—22.

Carboniferous and Silurian Systems, and to the rocks which they had so defined they had given the name Devonian System; and now they visited together Belgium, the Rhenish provinces, the Hartz &c., in order to ascertain whether in any of these countries there was a group of strata in a position between the Carboniferous and Silurian Systems and containing the same fossils as those found in the Devonian rocks of England. 1851. Æt. 66.

Sedgwick was much interested in this attempt to correlate the rocks of the long traverse they made from the Thuringerwald to the north flank of the Fichtelgebirge, the country so celebrated from the labours of Count Münster, and in the attempt to bring the rocks of that area into relation with their previous observations. With a view to studying the fossil evidence he acquired the large series of specimens selected out of the duplicates in Count Münstet's collection which is now in the Woodwardian Museum[1]. The working out of the Devonian Rocks was much advanced by this paper; but that some points remained unexplained is not to be wondered at, when we remember the difficulty that is still felt in determining the exact equivalents of the Hercynian, and the various explanations that have been offered in recent times of the occurrence of the Graptolite shales in the Hartz near Thale. The results of this excursion appeared in the *Transactions* of the Geological Society as a long paper of ninety pages, with map, sections, and plates of fossils, the palæontological part of which was mostly contributed by d'Archiac and de Verneuil.

We know from Sedgwick's printed syllabus of lectures (1832), and from the minutes of the Cambridge Philosophical Society, that he had long been watching the various artificial operations which revealed the geological structure of the neighbourhood of Cambridge. The Fens, and the attempts to reclaim them, were always a favourite subject of his, and the artesian wells made by piercing the Gault, or as it was

[1] The history of this acquisition is related above, p. 18.

1851. Æt. 66. then written, Galt, furnished a very suggestive theme. In 1845 he read a paper before the British Association, which met that year at Cambridge under the Presidency of Sir John Herschel, *On the Geology of the neighbourhood of Cambridge, including the Formations between the chalk escarpment and the great Bedford Level.* The sections drawn for this paper are still preserved. It forms the first sketch for most of the work that has since been published on the district.

His friendship for Wordsworth perhaps chiefly determined his publishing so much work on the North of England in this period, for he had promised him a sketch of the geology of the Lake District for his guide-book ; and three editions of this passed through his hands between 1843 and 1846. We need not give any lengthy notice of this work, as it embodies what has been generally accepted as the classification of the rocks of that area. Some points, however, require explanation. In attempting correlation there was still the great source of error in the confusion as to the age and position of the Caradoc Sandstone, which was further increased because the fact had not been observed that the flaggy beds above Ireleth, like those near Coniston, ranged from the Upper Bala to high up in the Silurian.

Besides the summaries given in Wordsworth's *Guide*, Sedgwick read a paper before the Geological Society, *On the organic Remains found in the Skiddaw Slate, with some remarks on the classification of the older rocks of Cumberland and Westmorland.* In this he gives a section across the whole of the Cambrian and Silurian formations of the Lake District, and describes in ascending order: (1) the granite of the Skiddaw Forest; (2) the Skiddaw Slate metamorphosed at the base in contact with the granite; (3) the green slates and porphyry, which he correlates with the volcanic series of Snowdonia &c.; (4) the Coniston Limestone (*a*) and calcareous shale (*b*), beds which are now known as the Ash Gill or Fairy Gill Shale; (5) Coarse grained siliceous grits. These were probably the bands of grit in the lower part of the Coniston Flag series,

which, owing to their hardness, protrude beyond the softer flags, and thus give the impression of having a much greater aggregate thickness than they do really attain to; (6) Ireleth Slates, that part of the series in which the great quarries were then opened on the hills above Ireleth, and therefore the equivalent of the Coniston Flags; (7) his 'Slaty flagstone ending in Tilestone.' This must include the rest of the Silurian, namely, the Coniston Grit (which often contains more fine than coarse material, and is more closely linked to the beds above it than to those below it), the Bannisdale Slates, and the Kirkby Moor Flags. 1851. Æt. 66.

These subdivisions of the Silurian are not yet so well defined as to be clearly traced across the whole district, and the zones of life have yet to be worked out more carefully before we can correlate the different areas even in the Lake district, Scotland, and North Wales, where the northern types prevail. The correlation of these life-zones with those of the Silurian of South Wales is still more remote.

Sedgwick has some very judicious observations on this subject (p. 218): "I would first remark that all the preceding groups are true physical groups: and I may venture to affirm that any one examining the region in detail would inevitably be led to some arrangement, at least nearly resembling that given above, and without any reference to the consideration of organic remains. Good physical groups are the foundations of all Geology; and are out of all comparison the most remarkable monuments of the past history of our globe, so far as it is made out in any separate physical region.

"Organic remains are, in the first instance, but accessories to the information conveyed by good sections. But when the successive groups of organic remains are once established, in coordination with actual sections, then they tell us of successive conditions of organic life, which were (as we know by experience and might perhaps have conjecturally anticipated) of far wider Geographical extent than the local physical movements which produced the successive groups of deposits.

1851. Æt. 66. Hence it follows that, in comparing remote deposits, organic remains become no longer the secondary but the primary terms of comparison." In this paper we see an attempt to make his interpretation of the Lake District and North Wales Sections fit in with the Lower Silurian Sections of South Wales in the suggestion that the Coniston Limestone was the equivalent, not of the Bala Limestone of Bala, but of a higher band which occurs in the Bala Series near Llansantffraid. But that he was here only trying to force his facts into harmony with what was put forward on such good authority elsewhere is evident from a note (p. 219): "If our classification had been based on the Westmorland Sections, I think No. 5 would have been regarded as the commencement of the Upper Silurian Series." The value of this paper is much lowered by the obvious attempts to get out of the observations it records some arguments in favour of his views of the correlation of other districts, which would have stood far better on their own merits, and were only weakened by hypothetical schemes of reconciliation.

At the end of the period we find many details filled in in Sedgwick's sketch of the rocks between the base of the Harlech and the top of the Bala Beds, but the data for the correlation of the rocks of North and South Wales were not yet forthcoming.

March and April, 1851, were spent in the comparative quiet of a Residence at Norwich; after which Sedgwick became again immersed in a whirl of engagements which lasted until the summer came to an end, and he was able to seek health and refreshment in a geological tour, the first he had taken for three years. May and part of June were occupied with long sittings of the Commission, diversified by the opening of the new Museum of Practical Geology in Jermyn Street by Prince Albert—a concert at Buckingham Palace—a performance of *Not So Bad As We Seem* by the Guild of Literature and Art at Devonshire House—visits to the Crystal Palace—and a performance of Handel's *Messiah*

at Exeter Hall. The play, with the exception of the acting of Charles Dickens, which Sedgwick thought admirable, whether he were "grave, gay, or farcical," did not interest him so much as the oratorio. "It was gloriously performed," he told his niece, "but did not so much delight me as did the performance of the same oratorio at one of the great York festivals, about 25 years since. The solos were good, but I have heard them sung far more nobly, and I always think of Bartleman when I hear sacred music like this. Herr Formes has a far finer voice than Bartleman had, but wants soul and intellect. Some of the sublime songs, such as 'Thus spake the Lord,' came from him without any stirring or inspiring effect. Bartleman used to put the whole house in movement when he sang Handel's glorious songs. But the choruses were grand beyond expression—perhaps a little too full for the room. They would have been better in York Cathedral, and I suspect they spoilt the ear for the solos[1]." 1851. Æt. 66.

At the Queen's Concert Sedgwick met the Duke of Argyll, and arranged that he and the Duchess should spend Whitsuntide with him at Cambridge. They were to see all the sights of the place, spend an evening at the Observatory, and generally enjoy themselves in a quiet leisurely fashion. Their host specially stipulated that they "should allow time enough really to see our old-fashioned *Alma Mater*, and to become acquainted with her manners and temper. Now and then she is a little odd and crusty, but she is a good old-fashioned Lady in the main." Sedgwick delighted in entertaining strangers, but, as the time drew near for his friends to arrive, his spirits gave way, and he almost dreaded the exertion. "Want of good sleep," he wrote, "is my great misery. In consequence, irritability and savage temper, low spirits and a great stupidity during the day, amounting sometimes to a nervous torpor. I never was myself during any part of my late Norwich Residence. Sometimes I think that this

[1] To Miss Isabella Sedgwick, 4 June, 1851.

1851. Æt. 66. long-continued nervous and gouty worry will end in positive insanity, or perhaps paralysis. But God forbid! I am at present pressed by too much work. And how seldom have I any time to work for myself'!" Society, however, usually acted as a tonic; and this occasion offered no exception to the rule. The weather was provokingly bad, so that they failed to get their promised glimpse of "an old belted knight of the sky through the Northumberland telescope;" but they saw what they could between the showers, and when unable to go out sat in Sedgwick's rooms and talked.

This brief interval of quiet was succeeded by a renewal of the whirl of conflicting engagements which had characterised the weeks that had preceded it. Frequent meetings of the Commissioners—sittings to Boxall for a portrait (to be hung in the small Combination Room of Trinity College)—a geological lecture to the Harrow boys—visits to all that was interesting in London, including Rachel in *Phèdre*—the meeting of the British Association at Ipswich—occupied the rest of June and the first two-thirds of July.

Sedgwick's geological tour this summer began with a hasty scamper through part of Cornwall with Mc Coy, to examine some points in connection with their joint work on the fossils of the Palæozoic rocks. As ill luck would have it the weather was extremely bad—an almost continuous drizzle of damp rain—and Sedgwick's spirits sank as low as the barometer. "It is really melancholy," he wrote from Launceston, "to revisit a place like this after so many years of absence. One gentleman was left whom I had formerly known, and with him we spent a pleasant evening. Another evening we drank tea with two middle-aged ladies who remembered one when they were little children. You will not wonder at this when you bear in mind that my first visit to Penzance was in 1819—my second in 1828—and my last but one in 1836. I am becoming every year more and more unfit for hard work; and 'tis not likely that I

[1] To Mrs John Sedgwick, 7 June, 1851.

should ever visit Cornwall again[1]." Wherever he went the same sad contrast between past and present forced itself upon his mind. At St Michael's Mount he remembered with regret his happy visit with Whewell, when they slept at the Mount, and walked by moonlight on the battlements with two charming young ladies. "Whewell," Sedgwick declared, "had a palpitation of the heart for a month after, and used to walk in his sleep, maundering about battlements, sparkling waves, bright eyes, and ruby lips, and I know not what besides[2]." He called on his old friend Mr Le Grice in anticipation of much cheerful talk, but found that he had gone away to attend his brother's funeral, that he was paralytic and had lost his memory, and had he been at home, would probably not have known him[3]. Another friend was too ill to see anyone; and a third was broken down with grief from the recent loss of his wife and eldest son. In spite of some good geological work Sedgwick was not sorry when this part of his tour was brought to an end by Mc Coy's engagements in connection with the second *Fasciculus* of their joint work, which he was anxious to finish before his winter work in Ireland began. 1851. Æt. 66.

Sedgwick's original intention was to go from Cornwall to Wales, and from Wales to Scotland, where he had left several questions unsolved in 1848. For part of this expedition he had tried to secure the society of Murchison. After describing what he wanted to do in Cornwall, he proceeds as follows:

...I shall then try to revisit a few sections in Siluria, and a few in North Wales, especially in reference to the unconformable Caradoc of the Berwyns, etc. as laid down by the Government surveyors. Perhaps I may get old John Ruthven to join me after Mc Coy quits the field. All this will require only a few weeks. Can we correspond? Above all (after you quit Ireland) could you for a fortnight meet me in Scotland, and go over a section or two to ascertain, if possible, the true

[1] To Rev. John Sedgwick, 2 August, 1851.
[2] To Miss Fanny Hicks, 8 August, 1851.
[3] Ibid.

1851. Æt. 66. place of the great central graptolite zone; and perhaps to have a peep at the Balmae group which I cannot (on the evidence I have yet seen) bring into Upper Silurian (i.e. Wenlock Shale)? Allowing it to be Wenlock Shale, then I think the great graptolite zone must also come into Wenlock Shale. But I cannot make my sections work into this view. And if it be the right view then I cannot bring the South Chain of Scotland into any comparison with the system of Cumberland on the other side of the Solway. That the Irish rocks opposite are the physical prolongation of the Galloway is quite certain; and after you have seen these rocks you will be prepared for the questions above alluded to far better than I can pretend to be at present; for the analogy between the Galloway and Cumbrian series is only hypothetical... I hope this will catch you. My dear friend of the hammer,

Ever yours,

A. SEDGWICK[1].

Murchison had made his plans for the autumn[2], and could not accept this invitation; so the Scotch part of the tour was given up, and Sedgwick had to content himself with the society of Ruthven, and an examination of part of North Wales, which he had not visited since 1846.

To the Duke of Argyll.

CAMBRIDGE, *October 15th*, 1851.

My dear Lord Duke,

It is very kind of you and the Duchess to tell me of your 'pleasant visit to Cambridge;' and I do hope you will both, before long, repeat the visit under a better sky: indeed as her brother is coming to reside here I cannot help indulging in the hope that I shall have the happiness of again receiving the Duchess in my rooms, and of doing my best to entertain her. I cannot do more. I say *happiness*

[1] The letter is undated, but was evidently written in July, 1851.

[2] Geikie's *Life of Murchison*, ii. 148.

rather than *honor;* for the latter word would only express a truism, but the former is the honest language of my heart. 1851. Æt. 66.

During the latter part of July I spent about a fortnight in Cornwall. The weather was hot and damp—not a day without rain—and when the rain was not falling in big drops we seemed to be living in a kind of hot vapour like that of a wash-house. Mc Coy was with me, and we did some work spite of gout and bad weather. The slate rocks of Cornwall are essentially *Devonian*—but there is one exception. Part of the promontory running down to the Dodman (between St Austell Bay and Falmouth Bay) is certainly older. I should call it Cambrian; Murchison would call it Lower Silurian. The sections are extremely puzzling. There is either a great concealed fault, or a positive inversion of the strata, in the great promontory. Had I been myself I should perhaps have worked out this point a little better; but at the time I felt as if my bones were all gelatinized, and my brain turned into cold starch. Of the general fact, however, there is not the shadow of a doubt. Pardon me! I do not mean the fact touching gelatine and starch; but the fact that very old rocks form the southern end of the headland S.W. of St Austell. Last year Murchison put in a colour for Upper Silurian rocks through a part of Cornwall and South Devon. He was misled by false information. The parts so coloured are all Devonian.

All the fossil fishes talked of in Cornwall turn out to be fishes in a mare's nest. Mc Coy has settled this point. The supposed fishes are closely allied to sponges! We found some admirable, self-taught naturalists on the coast—among them a very learned surgeon living a half-amphibious life in a natural cleft among the cliffs. He laughed the fishes out of countenance, and was delighted to talk with Mc Coy about their mock representatives....Another point, of some importance, we also made out. The highest groups in Cornwall and Devon, viz. those immediately under the Culm Measures—have *latterly* been considered as a part of the

1851. Æt. 66. Carboniferous Series, and therefore to be packed along with the Culmiferous beds. They seem to be in the exact place of the Irish carboniferous slates, and the great majority of their fossils are carboniferous. But in these groups (near Petherwin and Barnstaple) are also some of the most characteristic Devonian species. Of course I am using the word Devonian in a technical sense. Hence, these highest groups form a connecting link between the Devonian and Carboniferous series, both physically and zoologically. Murchison and I asserted, on what we thought good authority, that the Devonian Corals were specifically the same with the Silurian. Mc Coy has, I think, demonstrated this to be an entire mistake.

In North Devon the weather changed and became glorious, but hot almost past endurance; and I became better with the weather, though not till I had rested three or four days at Bristol, and put the inner man in better order. There I parted with Mc Coy to my great sorrow. Afterwards I threaded my way through Monmouthshire, Herefordshire, and Shropshire—the garden of all Silurian Geology. Having plucked many flowers in that garden, I then rolled along a railroad to Chester, and thence to Bangor, from which, after walking through the giant tube, I started on a tour through North Wales. This trip over, I ran to Liverpool, and spent three days in tracking footsteps in the New Red Sandstone on the Cheshire side of the Mersey....After leaving Liverpool I did some work among the Carboniferous hills of Craven and Westmoreland. In some deep valleys of denudation the lower rocks are laid bare, and by help of the fossils I was able to make out their exact places in the lower palæozoic series. This hole-and-corner labour took me about a week. It was doubly delightful to me because done in the land of my childhood; but the delight was not without alloy, as I was reminded at every turn of the melancholy changes produced by the lapse of time. In one little village among the mountains where I spent a joyous vacation more

than fifty years since, I enquired after old friends, and looked out for old faces, but in vain. All were gone to distant lands, or gathered to their fathers. Finally I left my birth-place—the old parsonage at Dent—in time for our Fellowship examination, and in time for the gout. 1851. Æt. 66.

Your Grace began by talking of "firing a shot to bring me up." Before this you will, I think, have been longing for a long gun to bring me down. But I will now, after this long run, bring myself up and strike sail. Pray convey my heartfelt good wishes to the Duchess, and believe me, my dear Lord Duke,

Ever faithfully yours,
A. SEDGWICK.

The Michaelmas term was spent in lecturing, and attending frequent meetings of the University Commissioners, subjects over which it is unnecessary to linger. As before remarked, Sedgwick's spirits had lost much of their former buoyancy, and he worked on doggedly, from a sense of duty. "I have too much on my hands for an old man," he wrote. "Rest for a winter—absolute rest—spent perhaps abroad, might set me on my legs again. Wherever I go I am bothered[1]." He found time, however, to write, and to read to the Geological Society (5 November) a paper *On the Slate Rocks of Devon and Cornwall*, giving the results of his summer's work in that part of England, which shews no sign of feebleness. This was succeeded (3 December) by another, *On the Lower Palæozoic Rocks at the base of the Carboniferous Chain between Ravenstonedale and Ribblesdale.* To both these works we shall return in a future chapter.

The Christmas Vacation was spent in Cambridge. Sedgwick was an admirable Vice-Master, and though he sometimes said that he had "company more than enough" in College, and longed for "a quiet domestic fireside with cheerful domestic talk," no man was more anxious to maintain old customs, or to promote the general hilarity of Christmas.

[1] To Miss Isabella Sedgwick, 22 October, 1851.

1851. Æt. 66. *To Miss Isabella Sedgwick.*

CAMBRIDGE, *December 31st*, 1851. 6½ A.M.

"...Ever since Trinity College was founded it has been the custom to welcome in the new year by a merry party. I never eat supper, but, as Vice-Master, I must be present, and I expect five or six guests whom I have invited. A few minutes before twelve St Mary's twelve bells strike off a merry peal. Exactly at twelve our butler walks in with a goblet of seasoned hot wine we call *Bishop*. 'Gentlemen, I wish you all a happy new year, and prosperity to Trinity College.' We then stand up and cheer, three times three, to the toast; after shaking hands we sit down again. Some will sit long; but I am happy to say that no man will now drink deep...."

The course of our narrative has now brought us to a subject which we would gladly pass over in silence, were it in our power to do so—the estrangement between Sedgwick and Murchison, to which allusion has been already made. On the personal question as little as possible will be said; but, as the subject-matter of the quarrel was one of the most important pieces of Sedgwick's geological work, it is necessary to give a full account of what may be called the Cambro-Silurian controversy; this will be relegated to a separate chapter.

It is difficult to state precisely when or how the final rupture between the Kings of Cambria and Siluria was brought about, if indeed there ever was any distinct rupture at all. Their friendly intercourse came to an end, but it would be more accurate to say that they drifted asunder rather than that they formally quarrelled on a definite occasion. At the point we have now reached we have merely to describe a preliminary skirmish, which, though it brought the principal combatants into the field, and led to the disastrous consequence of estranging Sedgwick from the Geological Society, did not amount to a formal declaration of war: It was a sort of reconnaissance in force—a massing

of troops on the frontiers, to be ready for active service should a need for action present itself. This movement was caused by the publication, on the part of the Government Surveyors under Sir Henry de la Beche, of a geological map of North Wales. On this map the colours used to distinguish Silurian rocks were extended over a large part of those heretofore described as Cambrian by Sedgwick. In other words, his territories were declared to be annexed by the neighbouring potentate; and, in fact, nothing was left him except certain rocks, then supposed to be non-fossiliferous, at the very bottom of his Cambrian System. 1852. Æt. 67.

No geologist who had worked out a district as Sedgwick had worked out North Wales could have submitted to such an overthrow of his own conclusions without making an attempt to justify himself; and, in consequence, he read to the Geological Society (25 February, 1852) a paper *On the Classification and Nomenclature of the Lower Palæozoic Rocks of England and Wales*, which, while it professed to be merely a continuation of the paper on some of the same rocks read two months before (3 December, 1851), was in reality an indignant protest against the treatment to which he had been subjected. The paper has been criticised as too personal in tone; but it must be remembered that the geological questions involved were of the greatest importance to Sedgwick; and that any defence of himself could hardly avoid including an indictment, more or less detailed, of "my friend and fellow-labourer, in this instance my antagonist[1]."

It is to be regretted that no contemporary record of what took place in the Society when the paper was over should have been preserved. It is, however, no stretch of the imagination to assume that the excitement was great, and the discussion animated. It was long since such a bolt had fallen out of the blue; and it is evident, from what followed, that the conscript fathers of Somerset House were scared out

[1] See Sedgwick's account of these matters in a letter to Murchison printed below, pp. 250—256.

1852. Æt. 67.

of their propriety. In their anxiety for peace they lost their heads, and only precipitated the explosion they were anxious to avert.

On the day the paper was read it was "referred" in the ordinary way. The referee selected was Professor John Phillips, F. R. S., of York, the distinguished geologist. When returned by him, with suggestions for its amendment, it was sent back to Sedgwick for revision, after which the referee again saw it, and suggested the omission of certain notes. It was then "balloted for and ordered to be printed in the abstracted form recommended by the referee" (7 April). Mr Geikie tells us that when it appeared in print "there was a very general expression of sympathy with Murchison[1]." This may have been the case, for his personal influence would attract to his side a body of men of whom very few had any knowledge of the facts of the case, or the real points of the question under discussion. One thing at least is clear, namely, that the paper excited so much observation and comment that the Council arrived at the extraordinary conclusion that they ought to remove the unclean thing from their *Journal*, and actually decided (19 May) on cancelling the number in which it had appeared[2]. Reflexion, however, shewed that such a course was impracticable, as the number in question had been in circulation for more than a fortnight. They therefore rescinded the resolution (16 June), and, as Mr John Carrick Moore, then Secretary, wrote to Sedgwick, "at the same time a paper by Sir R. Murchison was laid on the table, containing an historical

[1] *Life of Murchison*, ii. 141.

[2] Minutes of the Council of the Geological Society, 19 *May*, 1852. § 8. "Sir R. I. Murchison called the attention of the Council to certain passages in the paper of Professor Sedgwick published in the last Number of the *Journal*."

§ 9. "The Council observing with regret that the paper of Professor Sedgwick in No. 30 of the *Journal*, May 1st, 1852, has been published inadvertently with certain passages which the Council had required to be omitted,

"Resolved, that the number be recalled, and pages 152 to the end cancelled; and that a notice to this effect be printed on the first page of the next number of the *Journal*."

statement of his labours among the Palæozoic rocks[1]. This paper had been shown to three Members of the Council, who all vouched for its not containing a syllable that could give you offence. The President then directed that it should be read at the evening meeting (in point of fact the title only was read, as was the case with about fifteen others). It will then be referred, and treated like other communications; and the Council expressed a strong determination, both parties having said their say, not to allow of any more words from either party. I may add that many expressed, and all seemed to feel, that if there was anything in your Paper which ought not to have appeared in the *Journal* consistently with rules and customs, no blame either directly or by implication was to be cast on the author, the Council alone being the governing body who direct or forbid publication[2]."

1852. Æt. 67.

With this attempt to undo that which ought never to have been done, the matter ended. But it left on Sedgwick's mind an indelible sense of wrong, and his subsequent relations with the Society were formal and constrained. In after years he spoke of the attempt to suppress his Paper as "a personal stigma unexampled in the history of any other Philosophical Society in London[3];" and of the further determination to impose silence for the future on both parties—the secret article of the treaty, so to speak, for no formal resolution to that effect was entered in the Minute Book—with even greater bitterness. In the following year (13 November, 1853), the Council tried to give a new colour to the transaction by shifting the responsibility of publication from themselves to their officers[4]. But this subterfuge—like the sacrifice of a

[1] *On the Meaning of the term* SILURIAN SYSTEM *as adopted by Geologists in various countries during the last ten years.* (*Quart. Journ. Geol. Soc.* viii. 173). It is a reply to Sedgwick, expressed in courteous and considerate language.

[2] From J. C. Moore, 17 June, 1852.

[3] *Preface* to Salter's *Catalogue*, p. xxix.

[4] The following resolution was entered in the Minute Book:

"Resolved, that the Council have learnt with regret that Professor Sedgwick is under the impression that the Minute passed in May, 1852, and subsequently rescinded, imputed to him that he had not complied with an order of the Council.

1852. Æt. 67. minister to screen a sovereign—could hardly have deceived anybody, least of all Sedgwick[1].

While the Council of the Society was floundering in a slough of its own making, the two persons most keenly interested were dealing vigorous blows at each other in the pages of *The Literary Gazette*. Two days after Sedgwick's paper was read, Murchison wrote him a letter evidently intended to be explanatory and conciliatory. This, however, was only a preface to what followed.

BELGRAVE SQUARE, *February* 27, 1852.

My dear Sedgwick,

In enclosing you one of my cards for *soirées*, let me beg of you to prepare the abstract of your paper so that there should be nothing in it which can be construed into an expression on your part that *I* had acted *unfairly* by you.

This is the only point which roused my feelings the other night, and made me speak more vehemently than I intended. But I did intend to tell the meeting, in reference to that very point (what I forgot to say) that I have over and over urged you to bring out your fossils and complete the subject you had undertaken.

It was no fault of *mine* that you did not do this. And as to the Cambridge *Syllabus* of 1836 you must recollect that this was *after* I had been describing and naming specifically the fossils from the Silurian Rocks, Upper and Lower, during the years 1833, 1834, and 1835, the *System* with *all its names* being *promulgated* in print in 1835. What was done after this was simply elaborating the *details* of maps, sections, and so forth, until 1838, when all was completed.

The Cambrian System was *unnamed* in 1835. It was then simply called Lower Greywacké.

It was not *me*, I repeat, who *made Cambrian into Lower Silurian*, but the Government surveyors and palæontologists.

It is true that hearing of their labours I threw an eye over a part of them in 1842 with Keyserling, when I was convinced, and still more when I explored the critical points last year with their maps in hand, that no separation, physically or zoologically, could be made between Lower Silurian as defined by me, and the Snowdonian and Bala rocks.

The analogy of every place on the Continent and of America had led me to come to this conclusion before. In fact, all foreign

They disclaim having had any such intention, and request the President to communicate with Professor Sedgwick, and to assure him that no such imputation was intended to be conveyed by that Minute; the real meaning of which was that the Officers, charged with the publication of the *Journal*, had inadvertently printed matter which the Council had ordered to be suppressed."

[1] See his account of this, printed below, pp. 254, 255.

geologists, without my having anything to say to them, named the very groups which you call Cambrian, Silurian. 1852. Æt. 67.

I, therefore, had no choice. You will find, on mature reflexion, I am persuaded, that there is but one natural history group of life in Cambria and Siluria.

I did not like to rise again at midnight to talk about Barrande and others; but you are really mistaken as to their views. Barrande has already *about sixty species common to Upper and Lower.* But it is true that his very uppermost limestones have so much of the Devonian character, that it may be questioned whether they can be held to represent *any part of my Upper Silurian.*

This remark applies to almost all the *shreds* of Upper Silurian in France and on the Continent. So that, as there is no sort of stopping-place between Caradoc and the very bottom of the Llandeilo or Bala series—so, if all this were to be taken away from the Silurian, the very name must *be expunged* from the Continent.

Again, in Norway and many other places Upper and Lower (the latter with a full series of all your North Welsh fossils) roll over and over in *small* compact masses in which no general distinctions can be made.

My opinions are based on a conscientious conviction that the whole is *one* Natural History Series, if you object to System.

But enough of this. I cannot presume to do more than speak frankly to you; and whilst I dare say you will not change your opinions about nomenclature I again entreat you to allow nothing to appear in print which can lead the world to suppose that we can quarrel about a name...[1]. Pray let us wrangle no more about the *vexata quæstio.* We have done many a stroke of good work together, and if we had united to describe the whole Principality and the bordering counties of England the lamentable position in which we now stand as apparent antagonists could never have occurred.

But I am told by Logan and others, *that if I had delayed a single year* or two in bringing out my Silurian System with all its fossils the Yankees would have anticipated me. And you well know that Wales, North and South, was not to be puzzled out in less than *many* years of hard labour.

I have been grievously pained to be set in antagonism to you, but I can solemnly assure you that I know no possible way by which my present position could be altered without stultifying my original views of the Silurian System as a whole, and my confirmed and extended views respecting it as acquired from a general survey of the world.

Yours, my dear Sedgwick, most sincerely,

R. I. MURCHISON.

The abstract referred to, when published, was so worded that Murchison thought proper to let the world know what he

[1] The omitted paragraph deals with a totally different subject.

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had said, when the paper was first read. This was promptly answered by Sedgwick; whereupon Murchison wrote a second article, to which Sedgwick sent a second answer, and there the war of words ended[1]. As might be expected, some hard things were said, but, on the whole, the controversy was a temperate one, and both combatants were at pains to assure the world of their unaltered friendship. Nor, strange to say, do their relations appear to have suffered in cordiality by what had passed. The private letters which Sedgwick wrote to Murchison in this year are no less friendly than heretofore.

In any other year it is probable that Sedgwick's time and thoughts would have been completely absorbed in this exciting geological controversy. It happened, however, perhaps fortunately, that the labours of the University Commissioners were drawing to a close, and that the preparation of the *Report* demanded his constant attention. It is manifestly impossible to determine which passages of that ponderous document—it occupies two hundred folio pages—may be assigned to him, and which to his brother commissioners; but it is evident that he actually wrote a good deal of it. In February, for instance, he says: "I am working for the Commission, and this morning finished the 16th sheet of foolscap;" and, at various intervals through the year, his correspondence tells the same tale. The summer was exceptionally hot, but even in June and July his labours in Downing Street were not interrupted. Here is a description of himself in the latter month on his return to Cambridge from a spell of Commission-work.

To Miss Fanny Hicks.

CAMBRIDGE, *July 6th*, 1852.

"...I am smoking at every pore. The perspiration hisses from me with a noise like a steam-whistle; I am in a state of fusion and confusion—ever moping and mopping, a miserable walking *machine à vapeur*. Sometimes I think my poor bedmaker will find me running all over the floor, and have

[1] The articles are in *The Literary Gazette* for 1852, pp. 278, 338, 369, 417.

to pick up my organic remains in slop-pails; at other times, I fancy that I am undergoing sublimation, and that all my corporeal parts will mount into the sky, and find their place in the regions of cloud-land. So, dearest Fan, I must conclude; first asking you to give my broiling love, hot out of the dripping-pan of my thoughts, to all in your house, from my brother James down to prick-eared Shindy...." 1852. Æt. 67.

By this time the *Report* of the Commissioners for Oxford had been before the public for some weeks; and Prince Albert was naturally anxious to learn from his secretary what line the Commissioners for Cambridge were likely to adopt. Sedgwick's attendance was therefore commanded at Osborne.

To Miss Isabella Sedgwick.

OSBORNE, *July 17th*, 1852.

My dear Isabella,

You cannot expect many adventures on the railroad between London and Southampton. But Southampton *did* astonish me. It is quite a new town since I saw it last—alas! more than twenty years since. The terminus is far from the old part of the town; and a new city has risen around it; and they have excavated a great new dock and harbour. We went immediately to the dock, and waited till the Queen's Messenger arrived from Osborne in the royal yacht; and then, without delay, we embarked in her. The voyage was charming. The atmosphere was bright and cool, thanks to the thunder-storm. I have had a walk in the park, and been playing ball with Prince Arthur—a very fine merry child—but I must dress for dinner.

You have never, I think, seen the Isle of Wight, and now it is in all its quiet glory. I love it, because I have worked through all corners of it, hammer in hand; and because I have spent in it some of the happiest days of my life. From my window I look over the channel to the Hampshire coast; and beautiful woodlands hang on both sides, down to the water's edge, producing a combination the eye delights to rest upon....

1852. Æt. 67. *Sunday Morning 7 a.m.* Already I have had my morning coffee, ordered to my room by the Master of the Household. The Prince and Queen cantered past me yesterday. Each wore a wide-awake. I should not have known them, had not the Prince uncovered, and I immediately took the hint and pulled off my hat. They bowed and passed on. They were followed only by one lad on horseback to open gates. Every thing here is unostentatious—no bands of music, no soldiers. There is a policeman at the gate of the Park, and at the landing-place; with this exception there is nothing here that much differs from a private gentleman's house....The Court is in mourning; and all the ladies were in mourning—with plain head-dresses, and without any jewels. So the table was not at all splendid, for the gentlemen, at Osborne, never wear any uniforms. We had a good dinner, but not by any means an ostentatious one. The wines I never tasted, as I found at my elbow a bottle of seltzer water with a little brandy in it, which you know is my best beverage. I acted as chaplain. The Queen is in excellent health, and in joyous spirits. She was amusing her friends by an account of the terrific thunderstorm of the preceding day, which began in the Isle of Wight several hours sooner than in London. She and the Prince were caught, and obliged to shelter in a house near Ryde, where they remained till the tempest had passed over. The consequence was that on Friday night they did not dine at Osborne before half-past nine. Our dinner did not last long, and the Queen did not sit long after dinner. After coffee in the dining-room we adjourned to the drawing-room; and there we found a celebrated German pianist—a young lass from Bohemia whom the Queen patronizes—who went through some wonderful brass-wire evolutions which bothered my senses. She did, however, play some charming music which I could understand. During the intervals of this wonderful performance the Queen went round to make talk. I had my turn. She asked me several questions about the big pieces of ice which had fallen the day before

—one bit 7 inches in circumference. She had picked up some large hailstones which exhibited a peculiar radiating structure. I endeavoured to explain it by the analogous structure of balls of iron pyrites in chalk, etc. Of course we, at first, all stood in the Royal Presence; but the Queen soon ordered us all to sit down; and then you could see no difference between the Osborne drawing-room and that of a private house. So, *good morning*. I must finish my dress, take a turn, and then join the breakfast-party. How beautiful is the view from my window! The Channel and the Hampshire coast shining in the cheerful light of morning. Once more, *good morning*. 1852. Æt. 67.

Sunday, 1 *p.m.* I read prayers in what they call the council-room, for there is no regular chapel at Osborne and there was no sermon. The Queen formerly attended the parish church; but she found such a press of people (especially the visitors from Cowes) that the little church became oppressive; and she has lately engaged some clergyman to read prayers here on a Sunday. They talk now of building a chapel, which does indeed seem necessary to make this rural palace complete....

Monday Morning. After lunch I walked with the Master of the Household to the parish church (about a mile across the fields from Osborne), the ladies followed in carriages. On my return I found that the Prince had sent for me to talk about the Commission; but when we got back the Queen and Prince in one carriage and the Duchess of Kent in another, were starting on a drive with all the children. So the Commission talk was put off till the evening in the drawing-room. I then found that the Prince greatly admired the Oxford *Report*. He seemed to like the idea, there started, of mixing the foreign and English systems. The Oxford Commission suggest a plan of admitting any numbers who like to come, without belonging to any college, or being under the ordinary restraints of academic discipline—just as at Edinburgh and the foreign Universities. On this scheme there would be

1852. Æt. 67. two classes of candidates for degrees and University honours—Town-men and College-men. I told the Prince, honestly, that we should not recommend this plan. Each system might do by itself—but the two never would, we thought, work well together. I think he was a little disappointed at this; for 'tis just the part of the Oxford *Report* that has been puffed by the bellows of *The Times* and of the whole daily press; and he evidently does not wish us to fall behind Oxford. But if they, on any single point, advance too far, 'tis well, regarding that point, to be behind them. Besides, Cambridge has been far in advance of Oxford in everything regarding internal administration, and we have not half so much to reform as they have. I made some remarks of this kind, to which he assented, adding some remarks about the multitude of close Fellowships at Oxford, which he had learnt from their *Report*. He has studied it from end to end, which is more than I have done, or mean to do. I read it in the way in which Jack Horner ate pie. Our dinner yesterday went off exactly as the day before; only Lord Hardwicke (the Lord in waiting) was present. He does not commonly attend at Osborne; but is come now to accompany the Royal party on a visit to Plymouth and other places on the South Coast, and, you know, he is a sailor. They start this morning from Osborne pier, and I hope to be a looker-on from the neighbouring cliff. It must be a splendid sight. I do not mean to cross in the little royal yacht to Southampton, but to take a packet at Cowes and go up the Channel to Ryde and Portsmouth. I want to take a peep at the modern improvements....The house is all in a bustle for the voyage, and the Queen is off about nine. Perhaps I may add a word or two about the embarkation, but I do not promise. I must go down and join the breakfast party. They are early this morning.

Brighton, *Tuesday, 7 a.m.* The embarkation was a very beautiful sight. I went down in good time and sat on a bank by the seaside along with the children of Colonel Phipps (the 'Privy Purse'). Five war-steamers, rigged as frigates,

and decorated with all their colours and signal-flags, were at anchor about half-a-mile from the pier. Nearer still—a few hundred yards from the pierhead—was the Victoria and Albert Royal yacht steamer. The captains and officers, in full uniform glittering in the bright sun, were arranged in rows on the pier to conduct the Royal party to two twelve-oared barges, from one of which was floating the Royal standard. A sailor was stationed on a part of the cliff which showed the turn of the road from Osborne to the beach, and exactly at half-past nine—the time decided on at the breakfast—Jack pulled off his hat and gave the signal of approach. All fell into their right places, and the sailors in the barges stood up with their oars held erect above their heads. The Queen and Prince went first, very plainly dressed, and four children followed; but did not long follow; for they scampered about and sometimes ran round their father and mother. The Court followed in good order, and in a few minutes all were embarked—by signal the oars dropped into the water, and off they all went. Before long the great barge with the Royal standard was up with the Victoria and Albert, and all were on board. We could not see this distinctly, but I knew that the fact would soon be known by the salutes fired from the broadsides of the five war-steamers. For several minutes the roar of the great guns was magnificently exciting. I then went back, and drove to Cowes.... There, I will endeavour to seal this load of a letter, and put it in the post. If you think it worth while you may show it to any of your *prudent* friends, but do so with a caution. Great people don't like their private habits to be talked about. I described what I saw at Osborne in a former letter to yourself, and I talked about my visit to several of my friends. And what do you think? My descriptions, and almost my very words, some time afterwards found their way into the newspapers, through the prating, meddling, busy, impertinent folly of some one or other. Who was the meddling fool I shall never know; but if I knew who he was I should like to pull out his ears

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1852. Æt. 67. till their asinine length showed the metal he was made of. To-morrow, Commission. I have much enjoyed my trip. Measure my love by the length of my letter. Love to all. Ever, dearest Isabella, affectionately yours,

A. SEDGWICK.

After this most of July and August was spent in work for the Commission. At the end of the latter month, when they were sitting for almost the entire day to get their work completed, he writes:

"...We do not work so hard this week as we did last, yet I did work very hard on Tuesday. I was writing the conclusion of our *Report* in my lodgings from six to ten. From eleven to three we were looking over, altering, and putting our papers in final order. I then dined, and had a nap upon a sofa. At seven the Commission met at my lodgings, and we were at work till near midnight, discussing and arranging the conclusion. We met yesterday for about two hours, and then I had the happiness of going with the secretary to the Queen's printing-office and putting the last sheets in the printer's hands. We felt as happy as does a mail-coach horse on reaching a stable after a hard drive[1]."

After this the conclusion was not long delayed. Four days later Sedgwick records, with evident exultation: "We meet at 5 p.m. to-day to sign; and then, farewell Downing Street! I am heartily tired of it[2]."

Our readers would be as tired as Sedgwick were we to attempt an analysis of the labours then concluded. The whole volume, by which we mean the *Evidence* as well as the *Report*, deserves careful study. The former is a most valuable storehouse of information on the University, the Professorships, and the Colleges; the latter embodies, at least in substance, most of the reforms subsequently adopted. Among the more important recommendations are the follow-

[1] To Miss Isabella Sedgwick, 26 August, 1852.

[2] To the same, 30 August, 1852.

ing: the abolition of the Caput, and the substitution of a Council; the abolition of certain usages offensive to the Town and of no advantage to the University; the institution of Boards of Studies, corresponding in number to the departments of learning for which it is proposed that honours should be given; a preliminary examination in the course of the second year, after which it should be competent for students to transfer themselves to any branch of study which they might select; the establishment of Public Lecturers, nominated and regulated by the Boards of Studies; all Fellowships and Scholarships to be the rewards of merit only, and for this purpose all local and family claims to be abolished; to open all close Fellowships and Scholarships to all Her Majesty's subjects wherever born; contributions from the colleges towards the remuneration of the Public Lecturers, and Professors; a revival of the ancient system of hostels affiliated to colleges; and, lastly, the erection of new Museums of Science. 1852. Æt. 67.

Sedgwick's own evidence respecting the Woodwardian Professorship and Museum is extremely interesting and valuable, not merely as giving the history of the collection up to 1852, with the names of many benefactors who might otherwise have been forgotten, but as containing many useful suggestions for the future, intermingled with personal details respecting his own discharge of his duties. Some of these suggestions have been already acted upon, and have a purely historical interest; others still deserve careful consideration. We will extract a few of the most important.

(1) So far from being detained in Cambridge during the Long Vacation, the Professor ought to be employed in making field-surveys, either in the British Isles or on the Continent, during three or four months of each summer. To secure this very essential object, an allowance for travelling expenses might, perhaps, be made him out of University funds. Within the thirty-four years of my service I have many times, during the summer's geological tour, spent more than the whole stipend of the Professorship. I do not by any means make this statement by way of complaint, for the work was one of good will; but this state of things cannot and ought not to last; and

1852. Æt. 67. in making this recommendation I have no personal interests to serve in any vulgar sense, as my period of service is nearly over, and I am now becoming unfit for the robuster duties of an office which I hope soon to resign to more youthful and vigorous hands. If the Professor confined his labours to the closet, his lectures, however ably elaborated, might fall almost dead from his lips; but if he meet his class, year by year, after a voyage of discovery, he will be rewarded by finding an animated and earnest audience.

(2) I venture very earnestly to recommend that, in addition to the two Woodwardian Inspectors, at least one good naturalist and geologist be annually appointed by the University to inspect and report upon the new collections...In this way the collection will not stagnate, but will advance with the discoveries of a progressive science, and the Academic Collection will, in successive years, represent, as it ought to do, the actual condition of geological discovery. For this end it would be well for the University from time to time to appoint some scientific Inspector, who was not a member of the University, but well acquainted with the state of the great British collections...The occasional report of such an Inspector might produce a very healthy rivalry, and might very greatly benefit the University, by suggesting an interchange of duplicates or redundant specimens.

(3) The custody and exhibition of the old Woodwardian cabinets belongs exclusively to the Professor; but the present condition of the Museum requires the daily presence of an assistant-curator....For nearly a hundred years the University but ill discharged the obligations that were contracted by the acceptance of the Woodwardian bequest. She provided neither an adequate Museum nor a lecture-room; and, although all the surplus derived from the Woodwardian estates has been very properly expended on the New Museum, I think the Senate still owes a large arrear of debt to the equitable claims of the Professorship. All the proceeds of the estates are devoted to specific objects by the express terms of Dr Woodward's Will, and the increased rents of the estates are by no means more than sufficient to meet the present annual demands for such specific objects. But other objects have arisen out of the progress of geological science, and their importance has been sanctioned by recent Graces of the Senate; and it is not, I trust, improper for me respectfully to urge upon the Senate the appointment of an assistant-curator of the Museum. It now contains a noble collection of very great value which is the property of the University, and which has been brought together at great cost, but without any tax on the ordinary Academic funds. During the latter half of the period in which I have filled the Professorship, I have, at my own cost, contributed more than £1300 towards the collections and arrangements of the Museum; and, I may add, several liberal friends have also, at great personal cost, contributed to the fossil stores of our cabinets. Now that the University possesses such a new collection, and that geology is an acknowledged

subject of academic study, the Senate would do well to sanction the appointment of an assistant-curator, with a salary to be paid out of the funds of the University. No menial duties should be imposed on him; and he would find ample employment in working under the Professor, in making catalogues, in mounting and labelling specimens, and (while the Professor is absent) in daily explaining to visitors and students the nature and arrangements of the collection. 1852. Æt. 67.

(4) When a new side of the intended library-square shall have been erected, it will, agreeably to the architect's plan, contain a series of lecture-rooms. It would greatly forward the interests of science were the Collection of Comparative Anatomy hereafter arranged in this new building on the same floor with the Geological Collection; for palæontology cannot be studied to good effect without a constant appeal to Comparative Anatomy; and Comparative Anatomy would gain continual interest by an appeal to analogous organic structures derived from the Old World. In that case the present Anatomical Museum might be appropriated to Human Anatomy and Pathology, etc.

(5) It might be said that the Woodwardian funds are all appropriated, and that the corporate funds of the University are too low to meet any costly demands which may be made upon them. But if the corporate funds be low, the aggregate College incomes are very great; and the Colleges are bound to uphold, by every honest means compatible with their corporate obligations, that great cause of liberal academic instruction of which the Professorial lectures now form an essential part. The Colleges can only exist in honour, and consequently in safety, by a wise and generous use of those great instruments which Providence has placed in their hands; and I doubt not that by a wise and liberal policy, and without any unreasonable sacrifice of private interests, ample means might be found within the University for giving full life and activity to every institution or organ of public instruction that exists within it[1].

Sedgwick's time was now once more his own; and in the next chapter we shall relate the use he made of his emancipation from official cares.

[1] *Report of Her Majesty's Commissioners*, etc. Fol. Lond. 1852, Evidence, pp. 119, 120.

CHAPTER IV.

1852—1855.

DOMESTIC LIFE. FUNERAL OF THE DUKE OF WELLINGTON. LECTURES AT LEEDS (1852). REFUSES DEANERY OF PETERBOROUGH. FIFTH LETTER ON GEOLOGY OF LAKE LAND. NAVAL REVIEW. GEOLOGY IN WALES. BRITISH ASSOCIATION AT HULL. VISIT OF THE DUKE OF BRABANT. DEATH OF DR MILL (1853). ARCHÆOLOGICAL INSTITUTE AT CAMBRIDGE. GEOLOGY IN WALES. BRITISH ASSOCIATION AT LIVERPOOL (1854). PROPOSED PARLIAMENTARY COMMISSION. BRITISH ASSOCIATION AT GLASGOW. TOUR IN SCOTLAND. LECTURE AT KENDAL. PUBLICATION OF *BRITISH PALÆOZOIC ROCKS AND FOSSILS* (1855). GENERAL CRITICISM OF HIS GEOLOGICAL WORK.

AS soon as Sedgwick was set free he hastened to the North of England, where family business detained him so long that September was drawing to a close before he could turn his attention to geology. In pursuance of his scheme for correlating the rocks of Cumbria with those of Cambria, he was anxious to re-examine the so-called Caradoc Sandstone of May Hill, an eminence on the outskirts of the Forest of Dean, between Gloucester and Ross. The visit, in which McCoy accompanied him, was a very hurried one, extending only from 21 September to 29 September, as he was obliged to be back in College for the Fellowship Examination, and, moreover, it included an examination of the Malvern Hills. Sedgwick had time, however, to collect materials for an im-

portant paper, read to the Geological Society 3 November, 1852. *On a proposed Separation of the so-called Caradoc Sandstone into Two distinct Groups; viz.* (1) *May Hill Sandstone;* (2) *Caradoc Sandstone.* It seems to have called forth a lively discussion, to judge from Sedgwick's reference to the meeting at which it was read, "I was battling at the Geological Society till near midnight;" and afterwards his patience was sorely tried by the formalities which delayed its publication. It was "referred," and "re-referred," so as to exclude all controversial matter, and it was not until August of the following year that it found its way into the *Journal*[1]. Æt. 67.

To Miss Isabella Herschel.

CAMBRIDGE, *November* 12, 1852.

My dear Niece,

Thanks for your charming letter. I fully intended to reply to it, as well as to your sister's P.S., by the return post, but after I had written to her I was so direly oppressed with cold that I could no longer hold up my head. Yesterday I was completely disabled, stupified, fevered, and with a racking headache. To-day I am much better; but in a sorry condition to write to a young lady about love and marriage. For I am sitting in my bedroom in a warm dressing-gown, and with a nightcap on my head; my eyes are like two lumps of wet starch; my ears are roaring as if two water-wheels were in my head; my voice is inarticulate and emits unearthly sounds; and as for my nose, it is run quite wild. I have, however, enough of feeling left to rejoice in the happiness of my friends, and I send them my warmest and truest congratulations. Like a reckless booby that I am I have mislaid your letter; but I think you said that December the second was to be the happy day. But why put it off so *very* long? Had I not been born about 40 years too soon I would have made love to you in such an ardent manner that you would surely have been melted, and I should have carried you in

[1] See Sedgwick's complaint at this, printed below, p. 255.

1852. Æt. 67. my arms to the altar-rails, while Cara was only thinking about it, and then she would have had to dance bare-foot at your wedding. A wheezing old man makes, however, but a sorry bridegroom, and, besides, you are my niece, and therefore within the prohibited degrees; so we must let your sister move towards Hymen's portal at her own pace. May her arrival there be the beginning of a long life of domestic joy! and may you soon follow her, and be as happy as your sister!

By the way, I have told you of the ardent manner in which the Sedgwicks make love when they are young, and set about it with all their hearts; and of this I will give you a domestic example. My nephew Dick (now a B.A. of Trin. Coll.—a Priest—and an Incumbent at Norwich) was once, about six years since, a boy of nineteen, and, naturally enough, desperately in love with a pretty little girl about three years younger than himself. But they were separated; Dick heard no more of his first love or of her family for full five years; and the faithless dog has been in love a dozen times, and once or twice with his forefoot upon Hymen's threshold. And how, my dear niece, could it be otherwise? The Sedgwicks are all like tinder; and tinder fires with a spark; and the fire of tinder has long, you know, been used in lighting matches. I returned to Cambridge for the Fellowship Examination, which begins on the first of October; and Richard was to leave his father's house on that day that he might be at Norwich to do his own duty on the third. Judge my surprise when, about the middle of the week following, Dick came into my room, and found me in a state of obscuration behind a big stack of examination papers, and cried out, 'Spare me but one hour for talk—I am going to be married —yes, in three weeks—to my first love, Mary—if *you* will but *help* me!' I expanded my eyes, and held up my hands; and replied, with some surprise, that I never had suspected him of keeping up a correspondence with that child. 'Nor had I,' said he; 'till last Friday evening I never had heard

whether she was married or single, alive or dead. But listen, and I will tell you all.' He then informed me that a stranger whom he met in the train near Bolton told him about her family—how the mother was dead, a sister and a brother married, &c.—Dick then, not unnaturally, asked about his old love, Mary. 'Oh!' said the stranger, 'she is a beautiful girl, the admiration of all Bolton. She has had a dozen offers, but refused them all. She fell in love, when a child, with a man who is a parson in the South of England, I am told, and she will hear of love from no one since.' This set Dick's heart in a flutter. He had to rest at Warrington that evening, at the house of an old Quaker cousin of ours; and told old Broadbrim how the spirit had moved him. 'If so, cousin Richard,' said the old Quaker, 'thou owest obedience to its motions.' Dick assented; and what think you? Ten minutes after dinner the old Quaker (a venerable man, years older than myself) called his carriage, and started during a dark night of storm and tempest across ten miles of wild country to the house where Mary and her father had been on a visit. They were gone to Blackpool, a watering-place on the Lancashire coast. So the Quaker went back; and Dick next day worked his way to Blackpool. He saw papa, who received him kindly; and the moment he saw Mary they rushed together like two globules of mercury. Vows were renewed in an instant. 'Let us be married at once,' said Richard. 'I will make no difficulties,' said papa. 'Mary has never been happy since you parted, but you must have a house to live in.' 'Then I must go and ask my uncle to lend me his house,' said my nephew. Accordingly he started; and burst into my rooms, as I have stated. I felt exactly like the old Quaker; promised the full use of my Norwich house, and the key of my cellar, &c. In short, I applied a spur rather than a drag-chain—Isabella went to Bolton to help in getting all things ready, and on the 25th of last month I presented my youthful person to the family there, and the day following made two young people happy.

1852. Æt. 67.

1852. Æt. 67. My new niece is little in stature, with very small hands and feet, of good figure, fair and ruddy, with beautiful hair and blue eyes, and a roundish, pretty, happy-looking face. As you are my niece, you of course want to know all about your new relation. She and Dick pass through Cambridge to-morrow, and are to dine with me. How I wish you could be of the party! What a tremendous long gossip I am running into. But love-stories, like barley-sugar, spin out, you know, to any length you like. And does not this story prove what I said before—that the Sedgwicks are all warm lovers? Even old Quakers with a drop of the family blood are fit to serve among Hymen's sharpshooters....

Of myself I have no news to tell you, unless I were to count the number of times I cough or sneeze. So the less said about myself the better.

Ever, my dear Isabella,

Your affectionate Uncle,

ADAM SEDGWICK.

To Mrs Richard Sedgwick.

WINDSOR CASTLE,

Saturday, November 6th, 1852.

Dearest Mary,

I have come over to spend two days with the Queen, who did me the honour to invite me. 'Tis the Prince, I suspect, who wants to talk about some reforms at Cambridge; and the Queen is always very kind and courteous to all persons who have any official connection with him. As I have brought no books with me, and must wait a little before dinner is ready, I have begun to kill Time (but Time will have his revenge, and kill every one of us) by writing to you—though in truth I have at this moment nothing to say except that the wind is howling, and the rain pattering against the Castle windows. So, *good morning*, my dear niece!

Sunday Morning, 7 a.m. I have had my early coffee and attempted a walk on the great castle terrace; but wind and

rain forbad it. By the way, I said *good morning* yesterday when it was almost *night*. *Now* I may say *good morning* with very truth. There is a little formality at a Court dinner before you sit down. All visitors assemble in the Green Room as it is called, before the Royal party enters. The gentlemen, when the Queen approaches through a long gallery, arrange themselves in a rather formal semicircle. She shakes hands with the ladies, bows to the gentlemen, and then moves off first. When any foreign Prince is present she takes his arm, otherwise she marches off with her own husband. Yesterday Prince Hohenlohe (who married the Queen's half-sister) was present with his family. He therefore handed out the Queen, and Prince Albert handed out the Duchess of Kent, and sat opposite to the Queen; and as usual in the centre of the table. I was in great luck, as Lord and Lady Hardwicke were there, whom I know almost intimately; especially Lady Hardwicke, who is still a handsome woman with a happy round face; and you know I like round faces, and so does Richard, does he not? And my seat was a very happy one; as on my right was the lady in waiting (Lady Desart) whom I knew when she was a child; and Miss Cavendish (one of the Maids of Honour) whom I have known ever since she was a child was on my left. Our conversation was anything but formal. Miss Cavendish told me that Colonel Gordon was just going to marry Miss Herschel (Sir John's eldest daughter). She (Miss H.) was once at my house at Norwich, and Isabella knows her well. I praised Miss H. to the skies, said that she was a 'celestial body,' and that Gordon would be the happiest man in the world. Miss Cavendish then turned round, and told the Colonel what I said, with a little dash of quizzing amplification. In very truth Miss Herschel is a beautiful young woman, and I said enough about her to make the ladies talk of her to the Queen after they retired, for soon after we entered the drawing-room Her Majesty came up with a very condescending and cheerful face, and began to ask me questions about Miss

1852. Æt. 67.

1852. Æt. 67. Herschel. I told the same story I had done to Miss Cavendish, and said that Miss H. was supremely beautiful, quite a 'celestial body.' 'It is quite right,' replied the Queen, 'that Sir John Herschel's daughter should be 'a celestial body,' and I rejoice to hear it.' She then asked me questions about my summer tour and passed on. With the Prince I had a very long talk about our *Report*, (I mean the Commissioners' *Report*) but that is a dull subject. We had no military music—because of the old Duke's death, but the Queen's private band always plays in one of the drawing-rooms. The table was very gorgeous. Besides the side-lights and chandeliers, there were twelve golden branches (each with four wax lights) on the table, and between each pair of branches a magnificent silver-gilt vase. About half-past eleven the Queen rose, the band struck up *God save the Queen*, and we all, after walking a little in a long corridor or gallery, went to our respective dens. Mine is in Lancaster Tower. I can see John of Gaunt's tower at Lancaster from the hill immediately south of the village of Dent. So I am in the right place here, quite at home, am I not? The long gallery I spoke of is just 152 yards from end to end, and is ornamented with busts and pictures. All the private sets of rooms diverge from the gallery; and to each tower there is a separate establishment of servants and housemaids. So in this vast castle you may be as snug and comfortable as in a private house. Indeed more snug and comfortable in some cases; because here you may do what you like, and keep entirely to yourself if you like. After my early coffee, I breakfasted with the Master of the Household and the Queen's Equerries. At 11 I am to read the Morning Service.

And now, my dear Mary, what do you think I was talking about in the drawing-room to Lady Hardwicke? She said that she had seen in the papers that I had been at a marriage. I then told her of your early loves, of Richard's nocturnal journey with an old Quaker, of my hearty approval of the kind of game of matrimonial leapfrog &c. And what

do you think Lady H. said in reply? 'I think,' said she laughing, 'that the grave Professor and the old Quaker were quite as mad as the young people. But it was all for the best, and I should like very much to see your new niece.' All the gossip of the day is talked over with the Queen by the ladies in the drawing-room. So I have no doubt, my dear Mary, that your love-story has been fairly talked over at Windsor Castle. 1852. Æt. 67.

Sunday, 1 p.m. I have just returned from the Chapel, where I have read the Service. In the afternoon I mean to go to the service at St George's Chapel. There they have a regular Cathedral service. Tomorrow I return to Cambridge. There! I must conclude. My love to Richard.

Ever, dearest Mary,

Yours with the heart's best love,

A. SEDGWICK.

To Mrs Richard Sedgwick.

TRIN. COLL., *November 21st*, 1852.

Dearest Mary,

I mean to send you a letter, if all be well, by the early post tomorrow; and as I shall have very little time for it I might as well begin it now, before I retire to my bed. You would make out by my last, that I had given up all hopes of attending the old Duke's funeral. I should indeed have very much liked to have seen the last honours paid to so great and good a man; and I think I could not have been present without feeling deeply, and deriving a lasting moral benefit from the impression. But I was obliged to submit; and I did so without murmuring; and I did feel a deep emotion, sometimes producing a sinking, and sometimes a kind of devotional swell, of spirits, as I stood on Thursday night, at my solitary window, and listened to the solemn moan of the dumb-peal that sounded from St Mary's tower.

What thoughts came back to my mind as I stood and listened? All my early life was passed during years of war and blood-shed. I well remember the death of Lewis the 16th,

1852. Æt. 67. though I was then but seven years old. I remember the exultation at all the great victories of Nelson; and the exultation was then, I think, far greater than was ever called forth by the victories of the great Duke in Spain. For nations and kingdoms were falling, year by year, before the conquering sword of France. Between us and France seemed to be a struggle for life or death. The power that had swallowed up Europe, threatened to devour us, and was hovering within sight of the British coasts. England had then 500,000 men in arms. Even the peaceful Universities were banded, armed, and exercised. Such was the condition of England when I came hither in 1804 as a Freshman.

The next year, 1805, was a year of desolation to the Continent, but, at the critical moment, by one mighty blow, Nelson crushed to atoms the naval force of France; and from that time all immediate fears for our houses and homes were at an end. With mixed feelings—of sorrow most deep for the loss of a great deliverer—of joy and gladness inexpressible for so great a triumph won at a moment which seemed the crisis of England's fate—came the news of the great victory of Trafalgar. I was then on a sick bed, in great personal danger (of which I was myself not conscious)—and hardly conscious of what was passing; but I urged my nurses so vehemently that they were forced to comply; and they rolled me up in the sheets and blankets, and bore me to the window; where I saw the illuminations in the street near the great gate, and listened with half-delirious but deep sorrow to the booming of the muffled bells which were sounding for the dead hero. And after 47 years, in the same great court of Trinity College, am I now, in my old age, listening to the same solemn peal, sounding the accents of a nation's sorrow for a hero greater than Nelson! These, my dear Mary, were the kind of thoughts on which I fed on Thursday night.

But I must not write any more about my thoughts. I have had a very kind letter from your papa, and it is plain that you cannot have the happiness of seeing him at this time.

So far as I am concerned, it is better that he should visit Cambridge at another time; as I am still almost a prisoner, and cannot yet dine in Hall. I did lecture on Friday and Saturday, but not without pain to myself, and I yesterday caught a little additional cold: but this quiet day of rest, which I have spent by my good warm fireside, has set me up again. There was an excellent sermon, I am told, preached at St Mary's Church by Professor Blunt[1], which I should have liked to hear, but I could not go with any safety to my own voice. Your father writes in a way to make me blush. I do not deserve any praise from him. I have only obeyed the impulse of my heart; and only done towards you that which, if left undone, would have made me unhappy. To you, my darling, I owe an infinite obligation. Have you not given me a loving little niece—a young creature whom in my old age I can love and honour as a family treasure, and in whose happiness I can find a treasure of happiness for myself? You and Richard are to me as a son and a daughter. If I can be of use to you, 'tis so far well; and you pay me back a hundred-fold by kind looks and kind words coming from the heart. Don't talk of obligation. Tell me that you love me, and I will believe it; and tell me that you are happy, and I shall rejoice at it, and be happy along with you. Your letter was just the letter I like—sweet fireside gossip. I hear you are to dine *en famille* with Mr Wodehouse on Tuesday. I hope you like my god-daughter Alice. She was always a pet of mine. Tell her I send her a paternal kiss. Give my love also to her sister. I meant only to write a few lines; but the moment I began to write to you I fancied I was talking to you, and that you were looking up in my face, and asking me to go on. But I must now stop. So with a paternal kiss I say good night, and may God bless you and your husband, and give you His grace to make you good and happy!

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[1] *A Sermon in Memory of the late Duke of Wellington.* By Rev. Joh. Ja. Blunt, B.D. Lady Margaret's Professor of Divinity.

1852. Æt. 67. *Monday morning.* I was bewitched to go on writing. I meant to go to bed at ten, and I did not retire till after eleven. In fact a long day had been spent almost in solitude. So, when I began to gossip upon paper, I felt happy and went on. What a contrast there was between Nelson and Wellington! Nelson was vain, fond of popular admiration, warmhearted, and a creature of impulse; capable of committing acts of egregious folly; and all the latter years of his life I believe unhappy, because dissatisfied with himself. His sailors adored him, and so did his personal friends. Wellington had no vanity, cared little for popular applause, perhaps despised it, was stern to those under his command, rigid in discipline, and not personally beloved by his soldiers; was guided through life by the maxims of common sense, had no poetry in his system, seemed in public life incapable of committing any act of folly, and almost incapable of making a mistake; calm, prescient, and of indomitable resolution when the means of victory were in his hands. Duty, not glory, was his watchword. He seemed a being raised up by Providence to do a work memorable in the history of civilized and christianized man, and he died quietly in his own bedroom, after the nation (as the natural inheritance of his victories) had been living almost forty years in peace. You know all this, dear Mary, and why should I write it? Because, though I have nothing to tell you that is new, I like to have a gossip with you while John is preparing my breakfast. Were my lungs better I would come over some Saturday after my lecture, and spend Sunday with you; but in my present croaking state, I could not travel with safety, and if I did come I should make a noise like the bird of ill omen.

I wish there were an artist in Norwich one might trust to take your portrait. I should like to have it, and put it on the other side of the glass, to match that of Isabella. But to effect this we need not be in a great hurry—only watch the occasion. Thurlburn is come back and I must shut up this

sheet or miss the post. So good morning. I must reluctantly conclude, with my blessing and love to you both. 1852. Æt. 67.

Ever, dearest Mary,
Affectionately yours,
A. SEDGWICK.

The marriage which Sedgwick has described so graphically and so humorously in his letter to Miss Herschel was a source of infinite gratification to him. Our task will have been imperfectly performed, if we have not shewn that he was romantic as well as affectionate. The stories he took most pleasure in telling were those in which love had been victorious over difficulties; and the mere fact that Richard Sedgwick was about to marry a lady whom he had once been forbidden to marry, was in itself a passport to his good-will. At first he was somewhat shocked at what seemed to him indecent haste. "Old Hymen's chariot," he said, "used to drag on slowly, and only got to the terminus after many a halt to take in the needful supplies; but now he moves at a railroad speed, and is personified by one of the drivers of the Great Western Express[1]." But, before many days were over, he was deep in considerations about a suitable wedding-present, and on the wedding-day probably no one echoed more approvingly than he did the cry of the bystanders: "It's all right now, the young ones have got their way!" Again, he had reached an age when home had greater charms than general society; and he delighted in the prospect of having "a dear daughter"—as he called his niece from his first introduction to her—to brighten his old house at Norwich. Nor did this feeling wear off as time went on. Most old bachelors would have disliked the interference with their ordinary habits which such a change in their household arrangements involved. Sedgwick, on the contrary, made light of cares and difficulties; and he was rewarded by finding in his nephew's wife and children a compensation for having none of his own.

[1] To Miss Isabella Sedgwick, 3 October, 1852.

1852. Æt. 67.

To Mrs Richard Sedgwick.

DENT, *December 23rd*, 1852.

Dearest Mary,

I promised to write again from Dent, and as I only arrived here at 10 p.m. yesterday, you must allow that I am pretty punctual in the performance of my promise. The celebration of the 500th anniversary of Corpus Christi College detained me at Cambridge on the 16th. I meant to have gone to Leeds that day; but Prince Albert informed me, through his secretary, that he could not attend *in person*, and that I must, if possible, attend and answer for him. So there was no help for it. I did attend, and saw a sumptuous feast, of which I hardly dared to taste. We had several good hearty speeches. I spoke very early, in reply to the health of our Chancellor, Prince Albert; and, as all geologists improve their lungs by mountain climbing, they naturally become rather long-winded. This may partly account for the fact that my speech was unmercifully long—the longest spoken that evening. I returned to my chambers before midnight. Retired and slept till five, when I rose and lighted my fire, and began to pack my maps and drawings of big beasts, and my geological sections, &c., sipping my coffee at intervals. About half-past six my servant came—an hour behind the appointed time. He packed, and I grumbled, and between packing and grumbling I forgot my memorandum-book, out of which I was to spin a portion of my Leeds lectures. At half-past seven I was off. There was a halt at Peterborough for the northern express, which allowed me to lay in store a good solid breakfast. That done, I found my way to Leeds by 3 p.m. My friends met me, and conveyed me and my baggage to the great room of the Philosophical Society. There I unrolled my big beasts, gave orders to certain workmen about fixing them, and then went to a friend's house where I had *ordered dinner*—yes! *ordered* dinner, for I had written to the lady of the house, and told her if she hoped to hear me lecture, to provide me a basin of plain mutton-broth,

and a nursery pudding. So I dined simply enough—then threw myself on a bed for an hour—drank a cup of coffee—and at half-past seven went to the lecture-room. My beasts were all glorious to behold. The audience consisted of about 300, or perhaps 350—many petticoat-wearing bipeds among them. My beasts roared most harmoniously, and the assembled party sat silently watching their gambols, and listening to their ancient music, for two mortal hours.... We got home a little after midnight I think. 1852. Æt. 67.

After breakfast we went down to prepare my sections and pictures for the lecture at the Mechanics Institution on Monday evening. You know, my darling, what a sweet voice I have, especially when I am recovering from a bad cold; so they resolved that I should hold forth in the Music Hall, and sundry carpenters, and other cunning persons, were put in requisition to construct a great framework to hold my maps and plans and pictures. It was made to stretch across the orchestra, just before the steps where, in common concerts, the fiddlers and tweedledee operators stand all in a row. But mine was not a common concert, being confined to one wind-instrument... Next day (Sunday) I attended the *New* Old Church at Leeds and heard Dr Hook. In the afternoon Mr James Marshall called by appointment, and drove me to his brother's house, about four miles out of Leeds. I had a very pleasant visit, and some glorious games at romps with two young boys. The youngest, about three years old, I called William the Conqueror. 'You shall call me William the Conqueror,' said the child, 'if I may ride on your back.' So we were not long in striking a bargain. Next day they drove me to Leeds in good time. I ate a nice lunch-dinner at two; and then went to my bedroom to rehearse my long piece of wind-music for the concert-room in the evening. It was crammed to the utmost. Full 1200 I was told were present on the floor—three-fourths of them members of the Mechanics Institute. I never addressed a more patient and attentive Class. They

1852. Æt. 67. were silent as death; except when there was a pause, and then they all applauded heartily yet modestly. Only think! I went on at full speed for two hours and twenty minutes, during which I told them of many ups and downs in the old world; of many generations past and gone, which had left no living progeny; of rain, hail, storm and tempest; of gravel, glaciers, and boulder-stones; of the great Gulf Stream which puts the west side of England in a warm vapour-bath, etc., etc. And then they thanked me; and I bowed, and looked modest. Next day (Tuesday) I parted with my friends at Leeds, packed my papers and pictures, and put them on the way towards their old resting-place in Cambridge. I then looked at one or two manufactories and the beautiful church built by the Marshalls. Who would have ever thought that men could spin such beautiful churches out of flax! With them—by a modern transmutation little thought of by the old alchemists—threads of flax are turned into threads of gold, and these threads can draw big blocks of stone after them quite as readily, I suspect, as Amphion's whistle which you have read of.

Then by train to Halifax, where I spent a very pleasant, but grave and quiet evening, with Archdeacon and Mrs Musgrave. They are very old and dear friends of mine. Yesterday morning the wind blew over the Yorkshire moors fiercely and coldly. The hill-tops were grisly with snow, but at Bradford and all along the banks of the Aire the temperature was warmer. I reached Dent about ten. All well. We sat by the kitchen fire, till half-past one, talking about you and Richard, and relieving the monotony of the subject by a few puffs of a cigar. And then we returned to the old subject, and talked you over and over again. Write soon. All send their warmest love to you and Richard. May God bless you both.

Ever, my dear little round-faced niece,

Your affectionate old uncle,

A. SEDGWICK.

1853. Æt. 68.

The first of these two lectures was on "The Comparative Anatomy of the *Megatherium*, the *Mylodon*, and other large fossil *Edentata*;" the subjects he had selected for his lecture at Ipswich in 1848[1]. The second was "On glacial phenomena in connection with the history of erratic blocks." The *Report* of the Mechanics Institution for 1852 thus commemorates the lecture:

> The Committee refer with feelings of the deepest pleasure and gratitude to the last lecture on the list, that delivered gratuitously by the Rev. Professor Sedgwick; in which one of the most interesting questions in the physical history of the earth's surface was discussed with an union of profound knowledge and familiarity of expression that rendered the discourse as captivating as it was instructive.

To Miss Gerard.

CAMBRIDGE, *January 16th*, 1853.

"...I spent a delightful quiet Christmas [at Dent] which did my heart good....I went one day with Isabella to call on an old *dame* (that is, at Dent, your name for any old woman of low estate) whom I had known when I was a child, who had often dandled me in her arms, and was a fine, tall, rosy-faced, merry, young woman, when I was a very little boy. My niece carried the 'auld dame' a little Christmas present. Old as she was, she had still a little of her original freshness of colour, and evident traces of the finer features of her early years. Though very poor, and living on a small parish allowance, helped out by small dealings with sweets and gingerbread, and a little benevolence from those who respected her cheerful, contented, christian, old age, she was as clean in her person and her house, as if she were a lady's waiting-maid. When my niece told her who I was, she started from her chair, grasped my hand firmly, and cried out: 'Oh Adam, is it ye? Many a lang year is gone sen I I tought ye to loup off Battersby's trough! But oh! its kind

[1] See above, p. 150. The *Minutes* of the Cambridge Philosophical Society shew that six years previously (20 March, 1842) he had read to the Society "An account of Professor Owen's *Memoir on the Skeleton of the Mylodon*, and on the structure and habits of certain extinct genera of gigantic sloths."

1853. Æt. 68. o' ye to come an see me!' *Trough*, in the Dent dialect, means tombstone; and, considerably more than 60 years since, she had held my hand while I learnt to leap from this curious old monument....[1]

The old dame soon afterwards sang me a bit of an old carol she had, I dare say, sung to me before, about 64 years since. I told her of my nephew's marriage to his *first love*. 'Its weel, its weel,' she cried, 'ther's nae luck i' stopping the stream of true love! They stopped him five years sen; but now the young anes ha hed ther way, God bless 'em! An its o' God's ordering! what *is* to be, *will* be, an o' the world cannot stop it!' What do you think of this specimen of primitive philosophy, spoken with a full clear voice by a woman above ninety?..."

Sedgwick's own opinions did not differ greatly from those of his old nurse, though he did not venture to proclaim them with such decision. At this time, whatever might be his employment, his thoughts were constantly reverting to the young household at Norwich, and a brisk interchange of letters attests his practical interest in all that concerned his nephew and niece. Additions to the furniture or the plate—the replenishment of the cellar—a delicacy for the table—social arrangements for his next Residence—are each the subject of a long epistle. Nor does he forget to intersperse these matters with others of more serious import. He does not give formal lectures, but kindly suggestions, delicately and tenderly conveyed—for religious exercises, or conduct, or reading, or household management—the sort of advice that a father might send to a daughter whom accident had deprived of her mother. Most of these letters are too private to be printed as they were written, nor would they be generally interesting; but occasionally an extract may be quoted. The following refers to some lessons in music, the cost of which he had arranged to defray.

[1] The omitted passage contains the story of Battersby, related above, Vol. I. p. 11.

To Mrs Richard Sedgwick. 1853. Æt. 68.

TRIN. COLL., *January 13th*, 1853.

"...You must make no objections on this score. I am a *despot*, and never allow my nephews and nieces to object to anything I say or do in my own house. And indeed I am often unreasonable during the spring months. Suppressed gout comes upon me in February, and for four or five months quite changes my nature. It takes away my power of sleeping, and makes me so cross and unreasonable that I am ashamed of myself almost every hour of the day at some act or other of querulous folly. So you will have *much to endure* while you are my guest! For suppressed gout is first cousin to insanity, and mad people, you know, always behave ill to those they loved best before their malady. So every angry look and bitter word you must try to set down to the score of my present love, now that I am in sound mind; for I think I am now in sound mind, and I am sure that I love you and Isabella as if you were twin daughters, and my own flesh and blood...."

Two days later he learnt that his nephew and his bride were coming to pay him a visit at Cambridge:

To the same.

TRIN. COLL., *January 16th*, 1853.

...Nothing could have been better contrived. So on Monday, the 24th of this month, you will, I hope, be happily drinking tea, and telling love-stories, in my college rooms—tales and talk of domestic love, and hope, and Christian joy, reflected in happy faces! If we have these delights we need not care much for the weather....It delights me to think that you are happy at the thoughts of a Cambridge visit. I am never so happy as when I am among young people whom I love....

With his usual hospitality Sedgwick got up a dinner-party and an evening-party for his guests; and when it was time to return to Norwich he went with them as far as Ely,

1853. Æt. 68. to shew them the Cathedral. Before long he spent a month in their society, for this year February was one of his months of Residence at Norwich. The weather was execrable—the streets blocked with snow—and the Close deserted. "How dull I should have been," he wrote, "but for my own happy fire-side!" There, however, he found domestic enjoyments which made up for the shortcomings of the outer world. In the way of serious work there was the composition of a course of Lent sermons; in the evenings music, or reading aloud for his niece's gratification. His letters shew that he was thoroughly happy.

During April and May he was again in Residence. In those months we hear less of quiet, and more of the usual round of hospitality. Visits from Dr and Mrs Vaughan, and from Bishop Monk, gave him much pleasure. Early in May he was offered the Deanery of Peterborough. "Whatever may be your decision," wrote Lord Aberdeen, "it will at all events be matter of satisfaction to myself that I should have the means of marking the high sense I entertain of your services in the cause of religion and of science." In anticipation of the official letter Sedgwick's old friend Lord Fitzwilliam had written four days previously: "It will be an inexpressible pleasure to me to see you settled in a place which will afford us constant means of intercourse." Sedgwick, however, was deaf to the voices of these charmers. Without any hesitation, as it would appear, he refused, in a firm, but most full and courteous, letter to the Prime Minister. "I have lived too long to be ambitious," he writes, "so the increased ecclesiastical rank has no temptations for me; and I believe that the remnant of my life would be more usefully and more happily employed in doing the duties of the offices I now fill than in undertaking others arising out of high position in the Church....At Norwich (a place of most pestilent party-spirit) I have tried to be a peace-maker, and I preach what I believe to be Christian truth to a large and attentive congregation. At Cambridge my lectures are still

popular, and my class-room full; and I think (perhaps it is an old man's vanity) that I have the power of producing a good moral influence by raising my voice against a kind of dreamy pantheistical philosophy which tries to lift up its head among academical men. Besides, I have works on hand, which (if God spare my health) will take me two more years to finish....Pray forgive me for writing at this length. I am very anxious your Lordship should understand my motives, and I should grieve that you should think me a moral coward, or a disloyal son of the Church of England, in declining the dignity you offer me." 1853. Æt. 68.

Residence at Norwich ended, Sedgwick returned to Cambridge. Trinity College offered a melancholy contrast to his home in the Close. "The college," he tells Mrs Sedgwick, "is almost empty; and those who are here seem to be dressing their feathers for a summer's flight, so your old uncle will at least have elbow-room. But oh! how I shall want the dear society of those whom I love! Isabella and Fanny gone for nearly a year, and my daughter Mary no longer at my elbow to cheer me with her smile, and gladden my heart with her gentle laugh and happy gossip, in field or at fire-side. Pray write soon. If there is anything you want that I can get for you, *do ask me*, and I shall love you all the better for asking[1]."

A new edition of Hudson's *Complete Guide to the Lakes* being required, Sedgwick was asked by the publisher to make any changes he thought proper in his four *Letters*, the last of which had been written, it will be remembered, in 1846[2]. He was unable to attend to the matter when Mr Hudson first communicated with him; and by the time he was at leisure, the original letters had been reprinted. He therefore wrote a fifth *Letter* (dated 23 June, 1853), embodying the results of his two last visits to Lake Land in 1851 and 1852, and the changes which he now proposed to make

[1] To Mrs Richard Sedgwick, 10 June, 1853.

[2] For an account of these *Letters* see Vol. i. pp. 246—249: Vol. ii. pp. 39—41; 102.

1853. Æt. 68. in "the comparative nomenclature and classification of the natural groups of Cumberland and Westmoreland, and their co-ordination with the natural groups of North and South Wales." These subjects occupy less than half the letter; the rest is devoted, in the main, to a vindication of his own position with regard to "the nomenclature of the older palæozoic groups;" in other words, to an exposition of his views regarding the true limits of Cambria and Siluria. It closes with an eloquent tribute to the memory of the three great men whose acquaintance he had made among the mountains in past years, Dalton, Southey, and Wordsworth[1].

The following letter, though it was written some months after the publication of the *Guide*, and therefore anticipates our narrative to a certain extent, still belongs, in the main, to this place. It contains a very candid and natural explanation of his reasons for speaking and writing as he had done; and it holds out a hope that no permanent rancour against his old associate could be possible. This hope, alas! was delusive; and he brooded over his wrongs (as he considered them) with a bitterness that increased as years went on, until at last he declined to meet Murchison, even on the common ground of a scientific gathering.

CAMBRIDGE, *October 18th*, 1853.

My dear Murchison,

...I [have written] another *Letter* on the Lake Country (no longer, alas! to old Poet Wordsworth, but to the editor of his essay), and I left a copy of these letters at the Geological Society addressed to you. I hope you won't think my last *Letter* ill-tempered. If so, set it down to the fiend gout.

I am delighted with the tone of your letter[2]. It is frank and friendly, as it ought to be, and as your letters used to be.

[1] This passage has been already quoted, Vol. i. p. 248.

[2] A long letter describing the results of a tour in Germany, in the course of which he had visited some of the ground traversed in former years by himself and Sedgwick. The most important passages have been printed by Mr Geikie, *Life of Murchison*, ii. 154—156.

Two or three things helped to set my back up. I know that I am a great procrastinator—partly from temperament, partly from multitudinous engagements that pull hard at me, and *chiefly* from a condition of health which, for months and months together, makes writing and sedentary work very very irksome, and *almost impossible*. Still, though a man is behind time with his rent, he rather grumbles when he finds, on coming back to his premises, that a neighbour has turned out his furniture, taken possession, and locked the door upon him. This was exactly what you did; and so completely, unexpectedly, and without notice, that the first time I ever heard of your having Silurianized the map of Wales was from that parasitic geologist Knipe. He it was that told me you had bought his map—that you had talked about the colours—and that under your direction he had laid on the colours, etc. He was urging me to buy his map, which I did not do at that time. I do not remember the exact year; but it was a considerable time—several years—after the *Silurian System* was out. I confess that this both surprised and vexed me. But I had no real anxiety about the result. Good cards were in my hands, if I could only play them; and neither then, nor ever afterwards, had I the shadow of a doubt that I could make good my classification and nomenclature. I was the only man in England who had *all* the cards in hand, and knew how to sort them, so as to tell on the *whole* case. I was content with the old nomenclature, and anxious only about one or two points relating to the demarcations. 1853. Æt. 68.

The next thing that nettled me was Warburton's strange, and as I thought *suspicious* conduct, when he undertook to look to the reduction of two or three of my papers[1]. He worked away while I was at Norwich; but *refused* to let me see a single proof-sheet. I knew that he was, in truth, very ignorant of the subject he took in hand; for the knowledge he had was one-sided—all from your book, and nothing from

[1] *Journal* of Geological Society, 1845, Vol. i. pp. 5—22.

1853. Æt. 68. survey. And, believing that he knew the whole case, while he had only looked into a small part of it, he set to work in ignorant confidence, and, I verily believe, thought he was doing me a favour while he was *altering the names of the colours* on my sketch-map, which he tried to copy....By *suspicious* I mean that I thought he treated me as if he thought *me* a bit of a rogue; and I wrote to him, more than once, demanding the proof-sheets, and telling him that my reduction would pass under his eye, and that, if *unfair*, he might suppress any part of it, as he thought right, etc., etc.

You must remember that in my great big sketch-map I gave one colour to the *upper* (or true) *Silurians*—including therein the May Hill Sandstone, north of the Holyhead road, which is coloured yellow and called Caradoc in the Government map (assuredly one of their great mistakes). The lower Silurians, Caradoc and Llandeilo, and all the Cambrians, down to the Menai, had one colour; but I stated that I did this because no good demarcation had been made out between them. This great spread of one colour I called Protozoic = Lower Silurian + Cambrian. Warburton altered this, and published his reduction of my papers with the title of the colours, in which he made Protozoic = Lower Silurian. I believe he did this in ignorance, and not at all in treachery, and I declare, upon my honour, that for several years after, and not till long after you and I began to wrangle, did I ever look at the Warburtonian explanation of the colours, or *suspect* that he had *dared* (in over confidence in himself) to make any *unauthorized change*. This you will find stated in my new *Letter*. Now this fact explains what I allude to in the *Letter*. When I called on De la Beche to get one or two of his South Welsh published sections in 1846 (before I went to South Wales and Llandeilo which I had never seen since I saw it with you in 1834) he said to me: 'Sedgwick, you have given up a very good nomenclature!' I replied that I had given up no nomenclature—that the only difficulty was in the demarcations, which, before long, would be put right,

etc. I think it was in the autumn of the same year (but I cannot be certain) that I learnt from De la Beche something about the unconformity and thinning off of the so-called Caradoc, which in point of fact was not represented in the Llandeilo sections. This delighted me, for the Llandeilo sections (after my visit in 1846) still presented a very great difficulty, which would be cleared away by the unconformable overlap of the group over the Llandeilo saddle and on the south side of it. On this point I wrote more than once to Jukes, who told me they had given up the notion of unconformity—that the sequence was unbroken, etc. This news bothered me, and I did not believe it; and when the great map of the Survey appeared, two years since, I felt as certain as I could do of my existence that the yellow colour (called *middle Silurian*) was the colour of a great unconformable deposit between my Cambrians and your Silurians. It did, however, appear certain that the yellow colour included two groups of fossils—one undoubted Silurian (or Wenlock)—the other undoubted Cambrian (e.g. Caer Caradoc section). If this were true there must be an overlap, and in the intervening yellow colour the fossils of two systems were inextricably blended. I believed in this overlap, because you and Phillips and the naturalists of the Survey asserted it. I do not blame *you*, because you leant on the naturalists' determination; but it is impossible not to say that herein Salter and Forbes very strangely blundered—the more to be wondered at because Phillips had stated the leading facts quite correctly, though he had not (as it seems to me) the moral courage to draw the legitimate conclusion from his own excellent premises. 1853. Æt. 68.

I am writing ding-dong, to save the early post, and I have overshot my game, for I was very frankly telling you what had set my back up, after there was a dispute between us. After the Government map was out, I could no longer stand idle. I stood to my guns, and brought my case fairly out. I have read the paper over, and I think, in fact and

1853. Æt. 68. language it is reasonable and not disrespectful to any one, and that the Council made an egregious blunder when they ordered it to be *burked* after it was printed. This was a grievous personal insult, by no means wiped off by withdrawing the foolish order. I have a copy of the order; and *if* it be directed against me (and *my* name *only* appears), it contains an assertion that is *false* (I write the plain word advisedly), for it states that I had not complied with the rules and directions of the Council, or words to that effect. The assertion *may*, however, apply to someone else. I mean (now that I have *been permitted to see the Minute*) to demand of the Council, not as a *favour* but as a *right*, that the order be expunged, or, at least, that a note be entered on the same page to the effect that the person alluded to (as having acted against the previous order of the Council) was not myself, and that I had acted throughout in strict conformity to rule. If this demand be not complied with, I cannot, in honour, remain any longer a member of the Geological Society; for their books will contain a statement which is greatly to my discredit, and at the same time not true. When the discussion took place at the reading of this paper those who spoke were all against me. But who were they? Men who were already booked and committed to the other side—who had taken a position, and must fight for it—and who had taken their position under a positive mistake as to my own previous paper, in which (misled by Warburton's audacious blunder) they supposed that I had abandoned my old nomenclature. They also spoke, while still in ignorance of their own blunder about the so-called Caradoc; wherein lay the whole pith of the question. But let this at present pass. What followed? You, my dear Murchison, made a grievous mistake of judgment in sending (before my abstract was out) your own abstract of the evening's work along with Forbes' paltry squib[1]. No man (gout or no gout) likes to be

[1] Sedgwick is wrong in his dates here. An abstract of his paper, with a tabular view of his classification, appears in *The Literary Gazette* for 6 March,

treated as a fool and made an object of scoff to the groundlings. Lastly, in my paper of last year I ended with a good rub at the logic of the Survey, but in perfectly courteous language. I thought the Council would object to the passage, which was at the end of the paper. They did object, and I struck it out, and there was no reason (that I know of) why my short paper should not have appeared in the first number of the *Quarterly Journal* that came out after it was read (3 November, 1852). But it was put off then, and again put off, and at length it appeared this autumn, *after* two papers by the Survey, in which the exact views of McCoy and myself were at length adopted. When my paper was read, it was nibbled at by Forbes, and directly attacked by Salter. This delay was, I think, a needless insult upon me; and a *stupid* insult, because the dates, after all, tell the true tale to anyone who reads them. 1853. Æt. 68.

I have been writing very plainly, as I always would do to an old friend. Judging only by my own collection McCoy has long fought against any notion of an overlap. 'I see no proof of it,' he said, 'in your collection, and I don't believe it. If,' said he, 'the fossils of May Hill be in the same group with those of Horderly and Caer Caradoc I will give up palæontology as long as I live.' We went last year to the localities, and you know the result. We were only five days at work this summer in the field. I could not stand the wet, and was out only two days; and was then

1852; Murchison's first letter in the same Journal, 20 March, 1852. It concludes with the following verses by Professor E. Forbes.

Two famous geologists, earnest and true,
Through Wales ran a race to find something new.
The one came in first, and a world did discover,
The other came last, for he got a roll over.
Silurian beds we in myriads number,
Cambrian strata 'stat nominis umbra.'
S says M knows not his beds when he's got 'em,
That his system is base, and his base has no bottom;
Whilst M makes appeal to the sense of mankind,
Whether he should be stifled, 'cause S lagged behind.

1853. Æt. 68.

confined to my room by English cholera. But we did some good work. The Pentamerus Limestone is at the bottom of the May Hill group, and is the true base of the Silurian system. It is a part of the unconformable series. The Olenus shales of the Malverns (Phillips) are what I have called Caradoc shale, and are in the Caradoc sections, where they ought to be. But I *now believe* that seven or eight years since I mistook the upper bridge over the Onny for the lower bridge, and thereby carried the Caradoc shale so far down the river as to make it overlap the line where the Pentamerus beds *probably* pass the river. McCoy could see nothing, because of the floods of the Onny, which this year (as the last) covered the upper parts of the section. But Mr Duppa had (at my request) made excavations which set all right. McCoy and Salter both told me, years since, that I must have blundered about one of the localities of my Caradoc shale; but I obstinately stuck to my note-book, though it made against myself, for it would have been a formidable example of an overlap between true Cambrians and true Silurians. I mean to give a short paper on what we did, and it will, perhaps, be the last paper with which I shall ever trouble the Geological Society, which of late years has, I think, treated me rather scurvily. I must conclude.... I have written very frankly as I should have wished you to write to me... Ever (whether in peace or war) your affectionate old friend,

A. SEDGWICK.

The *Letter* written, Sedgwick set to work with McCoy on the third *Fasciculus* of their joint catalogue. Two had been already published, and McCoy was sanguine enough to hope that another would be ready by the end of the summer. Their own progress, however, depended on that of their artist, and, unfortunately, a number of the lithographic stones were so seriously damaged on their way to London, that the figures had to be redrawn. This accident did not merely

retard the publication of their work for a year; it detained them so long in London that a proposed visit to certain parts of North Wales was all but abandoned. The last week in August came before they were ready to start. 1853. Æt. 68.

It must not be supposed that Sedgwick passed the whole summer in steady application to a single task. Occasionally, indeed, he spent a quiet week in Cambridge; but such brief periods of repose were succeeded by some exciting expedition; a visit to London, or Chobham, or Portsmouth, to which latter place he was attracted by various experiments and manœuvres incidental to the coming Naval Review. He visited the dockyard and the fleet, dined on board *The Arrogant*, and generally saw all that was to be seen. The following extracts from his correspondence illustrate his proceedings during these summer months.

To Mrs Richard Sedgwick.

LONDON, *June 19th*, 1853.

"...We had a delightful quiet day [at Harrow] and I returned in the cool of the evening. Yesterday I was able to write a little for the press. In the evening I went to the Princess's Theatre to see *Sardanapalus*[1]. The scenery glorious, and the costumes all borrowed from Layard's illustrations. The tragedy, though containing many fine passages, is rather heavy, and the acting was not excellent. But the costumes, and music, and oriental dances, and the views of Nineveh, and the final conflagration of the great palace, were really wonderful. The Queen and a large Court party were present; and the theatre was filled almost to suffocation. I had secured a front seat in one of the dress-boxes, and saw all without any inconvenience. I wish you had been with me...."

[1] Lord Byron's tragedy was produced at the Princess's Theatre, 13 June, 1853, for the benefit of Mr and Mrs C. Kean. It was played for 61 nights to crowded houses.

1853. Æt. 68. *To Miss F. Hicks.*

CAMBRIDGE, *July 27th*, 1853.

"...In the evenings, about seven, I turn out and take a long walk, so as to return to tea a little after nine. Indeed yesterday I was not back till half-past nine. I went almost to Milton—then struck across the country, and passed old Mother Woodcock's monument[1], which I had not seen for many a long year. The big black-thorn hedge has been stubbed up, so at present no one can form a notion of the sheltered place into which she crept, and where she remained without food for eight entire days...."

To the same, and Mrs Richard Sedgwick.

PORTSMOUTH, *August 13th*, 1853.

"...On Thursday [11 August] I had my morning coffee early, and a peep towards Spithead. A fine morning, but hazy seawards—every prospect of a glorious day. A little after nine we embarked on board a quick steamer, and ran to Spithead. I never beheld anything so exciting. The shore, ramparts, and indeed every piece of swelling ground, from Portsmouth Point to Southsea Castle, was covered with people in tens of thousands. It had become quite clear and sunny, and all the hills above Brading seemed to be dark with wood, but on looking through a glass it was at once manifest that it was a mighty wood of human bipeds that crowned all the higher elevations. And as for the bright sea (on the west to a point beyond Cowes, and on the east so far as eye could reach, and far beyond the limits of the Isle), it was covered with vessels of all sizes: beautiful white-sailed yachts in many hundreds, sporting on the water like butterflies in the air—dark-coloured coasting-vessels pressed into the gay service of the day—pilot-boats of all sizes—steamboats innumerable (literally innumerable for I tried in vain to count them)—and down the middle of the mass, that looked like a gigantic floating city, rose majestically the long line

[1] See above, p. 138.

of the ships of war, rising into the air like the spires and pinnacles of churches and vast cathedrals, out of and far above the steam-chimneys and lesser elevations of the multitudinous masts that were around them. I never was more astonished and enchanted. 1853. Æt. 68.

About 10.30 the Admiral fired a gun. Then each of twenty vessels of war fired a Royal salute. They bellowed with the voice of continued thunder, and seemed to fill the concave of the sky. Soon afterwards the Royal Yacht came slowly up the line. Two Prussian frigates manned yards and saluted. The English men-of-war did not salute again; the crews were supposed to be at work for the service of the day. We were admirably placed; we saw the Queen and her party descend into a barge from the Royal Yacht, and then row away to the *Wellington*. We were close to her as she shewed herself in the stern-galleries, and we cheered to the top of our voices. In about a quarter of an hour she returned to her own yacht. Before long the signal to weigh was hoisted, and then commenced the business of the day.

The ships of war in two lines—each line commanded by an admiral—the Queen's Yacht heading them a little—stretched out to sea. We all followed. It was most intensely exciting. I many times tried to count the vessels of all sizes that were struggling onwards in our immediate neighbourhood, but all in vain. Nothing could be more charming than the shifting scene of the white-sailed yachts of the various clubs, grouped in picturesque masses, and tacking and turning in all directions. Then there was a dense mass of steamers floating nearer to the line of men-of-war. You might have compared them to a manufacturing city with its canopy of smoke. The beautiful Isle of Wight never looked more beautiful, when we turned from the fleet to gaze upon it. We had gone I know not how many miles, when the enemy was signalled from the Queen's Yacht. The ships of war then closed up, and formed a 'line abreast.' I knew it was all mockery, but my heart beat as if it were to be a real fight.

1853. Æt. 68. We looked most earnestly ahead, and before long we plainly saw four sail of the line and a frigate and some steamers, under full sail, and trying to get away from us. As we approached they changed tack; the chase then shifted, while the fleet was arranged in beautiful line of battle. We steamed towards the enemy in our little boat, and passed close under the stern of a three-decker (*The Queen*) under full sail. Before long, the enemy, finding escape impossible, bore down upon the Queen's fleet, and fired a grand broadside. The battle then became general. Broadside after broadside was poured out. We were (in our little steamer) between the enemy and a part of the line of battle, so we were for about a quarter of an hour in the midst of smoke and thunder. It was glorious to see the great three-deckers, pouring out their deluge of fire, and appearing to rouse the echoes of the sky. It was all the grandeur and glory of war, without the misery. At Chobham it was impossible not to see that the fight was all mockery; but here it was hard to believe that it was not earnest fighting—that death and destruction were not at work, while the furious cannonade was filling the air with dense clouds, through which the flash of the great bellowing guns shone but dimly, and the sun looked of a dull crimson colour. The enemy was in due order beaten. Their sails were hanging idly, and their colours down. Loud cheers followed the roaring of the guns. A signal flew from the *Wellington* to go back to Spithead; first in the order of advance, and then in racing order; each vessel being ordered to move to the anchorage as best it could. In this way they ascertained the speed of the several vessels, and I was glad to find that the gigantic *Wellington* screwed away gloriously, coming in second only to the *Agamemnon*. We had an excellent steamer, and kept in the thick of it. On reaching Spithead we found that the Queen's Yacht had still the Royal standard floating at the mast-head. 'Bravo!' cried some one, 'the fun is not over yet!' The ships of the line had dropped anchor, and two large frigates had also anchored a little out of the

line, and on our side of the Queen's Yacht. The gunboats were ordered out to attack them. In about half an hour they were ready. We were almost *too* near. My ears were nearly split by the sharp cracks of the twelve-pound brass guns from the boats, continually replied to by the bellowing of the great guns (56-pounders) from the two frigates. At length the loud cheers of their crews shewed that they had won the day; but the crews of the gunboats replied with loud cheers, and the officers had some trouble in preventing the men from dashing on and boarding, such was the excitement. 'This is the best thing of all!' cried out a fine lad who was on our steamer, and in such ecstacies that I almost thought he would have leapt overboard. So ended the business of the day. The Royal Yacht stood for Osborne, and we all went to our respective homes. I was in such a fever that I could hardly close my eyes...." 1853. Æt. 68.

Sedgwick had hoped to devote some weeks of the summer and early autumn to a further study of the rocks of North Wales, in connection with the facts and conclusions of his last paper read to the Geological Society. "My first intention," he writes, "was to re-examine the grits, conglomerates, and shelly sandstones which range from Conway to the neighbourhood of Corwen, and form the base of the Denbigh flagstone....After having effected this first purpose, I hoped to follow the same grits and sandstones in their range along the Berwyn chain; and, lastly, to follow them, as they are laid down (I doubt not with great accuracy) in the Government Map, until they finally thin out and disappear....The bad state of my health compelled me, very reluctantly, to abandon the greater part of [this task].

"There remained, however, a second and shorter task, in which Professor McCoy had promised to join me. We proposed to examine in detail the section of Mathyrafal, near Meifod, the sections of the Pentamerus limestone on the flanks of the Longmynd, the sections of the Onny and of

1853. Æt. 68. Caer Caradoc, and lastly, the sections of Builth, Llandovery, and Llandeilo. I thought that the facts exhibited in these sections must have a direct bearing on the conclusions we had drawn in the preceding year[1]."

Even this restricted programme, however, was left incomplete. Their time was limited to a single week, and further curtailed by unusually bad weather. Sedgwick fell ill, as already mentioned, and for several days was unable to give any help to his fellow-labourer[2]. Notwithstanding these drawbacks, a sufficient number of facts were collected to fortify the conclusions previously arrived at, and a paper was written *On the May Hill Sandstone, and the Palæozoic System of England*, in which they were embodied, together with a reiteration of the proper limits of Cambria and Siluria. This paper led to a breach between the author and the Geological Society which was never repaired. Sedgwick had intended to read it at the first meeting of the Society after the recess. This, however, he was unable to do, and ultimately it was postponed until one of the concluding meetings in the spring of 1854, when he was not present. It was referred, and ordered by the Council to be printed, "subject to the recommendation of the referee." Thereupon the President (Mr W. T. Hamilton) ordered it to be returned to Sedgwick "for the purpose of enabling him to see how far the omissions recommended by the referee, and adopted by the Council, would affect the meaning and argument of the paper." Sedgwick was unwilling to accept the proposed changes, which amounted to a resignation of his nomenclature and classification; and, regarding the recommendation as tantamount to a refusal to print the paper, published it in *The Philosophical Magazine*, for which he was severely censured in the next speech of the President. Explanations were subsequently made, but Sedgwick was not satisfied, and we believe that he did not again attend any meeting of the Geological Society.

[1] *Philosophical Magazine*, Vol. viii. 1854, pp. 303, 304.

[2] See above, p. 256.

To Mrs Bunbury. 1853.

LONDON, *August* 31*st*, 1853. Æt. 68.

My dear Mrs Bunbury,

I arrived in London last night on my way from North Wales to Cambridge. Some expressions in your last letter to me made me fear that the great and good Sir Charles Napier had not long to live; and I learn from the papers that the event, for which every true-hearted Englishman will mourn, has already taken place[1]. God's will be done! England has lost a glorious and beloved son. His name is a precious inheritance, and I trust that men of like heart and mind may hereafter rise up in our hour of need, whenever that hour may come. And it *will* come, I fear, before long; and my old and dim eyes can see no one like him in future prospect. There is a wretched, twaddling, unpatriotic spirit abroad amongst us—a want of capacity for comprehending what is great and good. We have our high places filled by men who can tamper with conscience for party—can look on the roll of England's history as if it were a cotton-spinner's ledger—and can talk of Christian peace and think they are securing it while they are telling England to bend her neck that any despot may put his foot upon it.

I beg your pardon. This is not the way I should write; for I wish to tell you that I mourn with you, on what, to you, may be called a domestic loss[2]. I do mourn with you in my heart, and I think it a happiness (now alas! a melancholy happiness) that I had the honour of knowing the hero who is gone. May God long preserve the lives of the noble brothers who are still left for England! Say a kind word from me to Lady Bunbury, and any of the family who know me.

I was only a week away. My health gave way in consequence of the incessant rains of the past week. I was driven back. I could not have remained long, as I had

[1] General Sir Charles James Napier, G.C.B., died 29 August, 1853.

[2] Sir Henry Edward Bunbury, Bart., father-in-law to Sedgwick's correspondent, married Sir C. J. Napier's sister.

1853. Æt. 68. promised to attend the Hull Meeting [of the British Association] on the 7th of next month.

Believe me, my dear Mrs Bunbury,

Your affectionate old friend,

A. SEDGWICK.

At the Hull meeting of the British Association Sedgwick was President of the Geological Section. He also read a paper *On the Classification and Nomenclature of the older Palæozoic Rocks of Britain.* The paper, as printed in the *Report* of the Association, is evidently very different from what it was when delivered. It is by no means long, and yet the author apologizes for "the very great and unusual length." He described it as "out of comparison, the most important communication he had ever made to the British Association;" and drew attention to its "conclusions derived from evidence the unfolding of which had taken many years of field-labour." It presents, in detailed tabular form, his latest views on classification; and was probably intended as a justification of himself, and an appeal from the Geological Society to the wider public of the Association.

After a hasty visit to his friends in Yorkshire, Sedgwick returned to Cambridge for the Fellowship Examination. It happened that among those elected were two sizars. "I was myself a sizar," he wrote, "and I rejoice that the sons of poor men get on by their merit." But, on these occasions, he always had a kindly thought for the unsuccessful, and he added: "If happy to elect good young men, we are sorrowful in rejecting two or three excellent persons[1]." When Sedgwick's habitual pursuits are taken into account, his interest in these examinations must appear remarkable. His letters shew that the work was often very trying to him, but he did not go through it in a perfunctory fashion, as a disagreeable duty imposed upon him by his position as a

[1] To Miss Isabella Sedgwick, 10 October, 1853.

Senior Fellow. He mastered the papers thoroughly, and remembered with pleasure translations that had been distinguished by brilliancy of style, or accuracy of rendering. 1853. Æt. 68.

Sedgwick had always found the work of the Michaelmas term fatiguing, even in his best days; and now that he was approaching his seventieth year he admitted that he looked forward to it with apprehension. This year a brief holiday, in the shape of a visit to Bishop Blomfield, refreshed him somewhat after the labour of the Fellowship Examination. "The visit to the Bishop has greatly cheered me," he wrote; "we entered Cambridge in the same year, and have many common subjects of interest; and in his own house, after he has gone through the hard work of the morning, his conversation is not only very instructive but very amusing; for among his friends and family he can be as playful as a child....I am sure I have not often seen a more happy-looking fireside[1]."

When the lectures began Sedgwick found that they did fatigue him a good deal. He described his class as "the largest and most attentive I ever had since I began to lecture in 1819," and perhaps he exerted himself more than usual to instruct them. Moreover, in November he was elected President of the Cambridge Philosophical Society, an office which he continued to hold for the next two years. The next letter shews that he was trying to practise a little self-denial.

To Mrs Philpott.

Wednesday Evening,
November 2nd, 1853.

My dear Mrs Philpott,

I could only send a verbal reply yesterday, as I was on my way to my lecture-room, and behind time, when your servant gave me the note; but I told him that I could not dine with you on the 9th, and I hope he gave my message in a proper coil of respectful words. In fact I had before

[1] To Miss Isabella Sedgwick, 27 October, 1853.

1853. refused *two invitations* for that day. "Indeed I must not go
Æt. 68. out to dinner during this Term while I am so very busy; for my lectures fatigue me, and in the evenings I am unable to hold up my head in any party. In mercy to my kind friends I must keep away from their dinner-tables. This is a great self-denial; but we are born to trouble you know. How comes it to pass that everybody is trying to give big dinners on the 9th? Is the 9th a day of peculiar capacity? I dare say it is. And there are numberless mysteries in numbers. So said old Pythagoras, and I believe him; and of all numbers give me number 9 as the symbol of prolific mystery! It is beautifully symmetrical; having a beginning, a middle, and an end of equal size, and each made up of the mysterious number 3. It is the number of the Muses; and it is the square of the number of the Graces—and that is more than can be said of any of the other numbers that ever were counted. It is indeed a singular number, though plural in its graceful properties. Again, it is the last and best of the Arabic symbols; for that which comes after it goes, you know, for *nothing*. Bless this number 9! It would take a month to tell of all its points. If you kick it over it will stand upon a new pair of legs, and then become six, which Dr Philpott will tell you is a *perfect number*. It has properties in common with a spaniel, a woman, and a walnut-tree, if we are to trust the old proverb; for the more you pound it the more you get out of it. At this moment I am half asleep, which, may be, helps me to see more than a waking man can think about. So requesting you to turn over what I am telling you, I remain, so far as I have any sense left,

Your affectionate friend,

A. SEDGWICK.

Before long, however, he began to suffer from a determination of blood to the head, which only yielded to copious applications of leeches and other drastic remedies. He ought to have abstained from all mental and bodily exertion, but

rest was out of the question, for even before he was out of the doctor's hands, Prince Albert brought the Duke of Brabant to see the University. It became Sedgwick's duty to arrange the programme of the visit, and, as the illustrious visitors wished to attend an academical lecture, to resume his own course to suit their convenience. The Prince had intimated that he wished to hear the lecture "as it would have been delivered had he not been present[1];" but Sedgwick ventured to deviate somewhat from this suggestion. "I lectured them for an hour," he says, "about dry bones, but all went off well, and I ended with an address of congratulation to the Prince, and a short address to the Duke, in which I alluded to his father, and the sudden affliction which had filled all England with sorrow, followed, however, by new prospects, a renewal of domestic happiness, and a crown. And I added that if at some future (and I trusted a remote) period, the crown should circle his head, he might, like his royal father, have the happiness of long wearing it during a time of peace and glory, etc. etc. The young Duke thanked me again and again for having spoken so kindly of his father....At twelve [on November 23rd] a lecture by Professor Willis, who exhibited beautiful models of some complicated machinery. At one the Anatomical Schools and Museum. At two lunch at Trinity College. Everybody as happy as men can be in a fog. After lunch Observatory....Just as they were starting [at the Railway Station] the young Duke came back, and again on shaking hands said how much he was delighted with what I had said of his father.[2]" 1853. Æt. 68.

This excitement did Sedgwick no harm, and he finished his course of lectures, though in what he called "a short and shabby way." In fact, he was on the high road to complete recovery, when he caught cold in the Senate-House, during the examination of his class. These winter afflictions were no novelty; but on this occasion a common cold was

[1] From Lieut. Col. Grey, 18 November, 1853.

[2] To Mrs R. Sedgwick, 23 November, 1853.

1853. Æt. 68. succeeded by influenza, influenza by bronchitis, and the end of February came before he could be called well. In the middle of his first attack came the news of the death of Dr Mill. "This afternoon," he wrote, "brought me news which greatly afflicted me. My dear old friend Mill is dead, after a short illness. In his own way he was the most learned man I ever knew. He was sincere, upright, and honest; a man of principle; but too much of an ultra high-churchman for me to agree with on points of authority. We never had one angry word together, and 'tis hard to lose a friend of full forty years standing. He was just five years my junior in academic standing, and more than five years my junior in age[1]."

To Sir J. F. W. Herschel.

CAMBRIDGE, *February 27th*, 1854.

My dear Herschel,

...I know that you have tender lungs, and that when a cough settles in them you do not easily serve the fiend with an ejectment, so you will pity me (and I also ask a tear or two from Lady H. and her daughters), when I tell you that I am not yet quite recovered from a vile cold I caught early in December. For 29 days I never left my rooms; and I spent my days in drinking slops and sudorifics enough to dissolve a block of granite. Mustard foot-baths and mustard chest cataplasms were all in vain. So the doctor dabbed my throat and chest with a liniment which gave me a kind of horrible red mange, and made me unfit for a civilized piggery. As soon as I was made up for a journey (on January 13), they packed me off to my Norwich Residence, and I had the doctor's orders to live on Sangrado physic, and never to read, or write, or think about anything heavier than the froth of a modern novel. I obeyed orders, because they exactly suited my tastes and my cerebral condition, and my niece (not the one you saw) nursed me, and sang Scottish songs to me, so

[1] To Miss Isabella Sedgwick, 27 December, 1853.

that by the end of January they had almost 'whipped the offending Adam out of me.' But, as ill luck would have it, I had a fresh attack of bronchitis on the first of this month, and was again 'in the straw,' and I only came out on Saturday, when I found my way back to Cambridge, and now I am 'as well as can be expected.' 1854. Æt. 69.

I have not seen the Master since I came back; but I hear that he is well and vigorous. What wonderful health he has! And indeed he ought to be strong, to destroy a plurality of worlds, as he is trying to do[1]. Have you seen the big pestle and mortar by which he has pounded 500,000 worlds into comet-tail-dust, and the big snuffers by which he has put out the *lights* of all *livers* above and below the earth? I was much amused by it, but not convinced. But how can a man be convinced who has a bad cold? He is too full of phlegm to be stirred by anything—too dull of sense to have reason. But I mean to read the book again, if I live long enough to secrete a new brain, for my old one was all turned to mucus long since. 'Tis a shame to write so much about myself; but what else can I write about—living as I have done by myself and for myself? My letters are only a kind of moral expectoration; lung-thoughts and not brain-thoughts. I trust your family are all flourishing, and that Lady Herschel and your daughters will receive my kindest remembrances. Though my head is empty, and my lungs sadly out of tune, I believe I am still sound at heart, and that my good wishes will do no one any mischief. I have for some years been Vice Master, in virtue of which office I am Lord of the Trinity spit. I wish you would bring down a good family party, and see how I will make it do us a good turn or two.

Ever truly yours,

A. SEDGWICK.

[1] The work alluded to, *Of the Plurality of Worlds: an Essay*, was published anonymously towards the end of 1853. Early in 1854 Dr Whewell published, also anonymously, a *Dialogue on the Plurality of Worlds, being a Supplement to the Essay on that subject*. On this he evidently had some correspondence with Sedgwick. *Whewell's Life*, by Mrs Stair Douglas, p. 434.

1854. Æt. 69. *To Miss Gerard.*

CAMBRIDGE, *March 8th*, 1854.

"...And now for your present, which is before me. I did not stand in need of it 'to keep you in mind;' for an old man delights to live over again in past years, and your name, and person, and cheerful voice, often rise up among my happy remembrances of days spent among my dear friends in Scotland. I wish I could see you, and them, more frequently; but your bronze plate may help me to journey towards you more often in my thoughts. It is a sweet work of art, in which respects it is both like you and unlike you. It is ponderous, and you are not. It rings when you strike it; and I dare say you would do the same, were I to try. It is covered with brazen monsters, and I never thought you brazen or monstrous; but the very antipodes of such things. It will not hold water, but it will hold cards, in both respects unlike you; for I have seen you drink water, and I never saw you 'hold cards.' Its wonderful mazes puzzle my eye—surely, very like you in this; for, ever since I was fifteen (for more than half a century) all young ladies have been to me a most amazing puzzle. I could go on 'using similitudes,' like good old John Bunyan of thrice blessed memory; but time goes on, and I must stop. So, in plain words, and without a figure, I send you my heart's thanks and blessings...."

To Miss Isabella Sedgwick.

TRINITY COLLEGE, *March 19th*, 1854.

"...Since my return I have had two examinations—each of which (including the printed papers, the attendance at the Senate House, and reading over the answers) took me several days. I have also written a paper for the *Annals of Natural History*[1]. Two Chief-Justices are here on the circuit. I dined with them on Friday (the only time I had dined out

[1] See below, p. 285.

since October) and the operation did me no good. But I do now dine in Hall, and today I shall meet the Judges there, if all be well with me.... 1854. Æt. 69.

No wonder that my framework should be a little out of order, for if I live till Wednesday I shall have entered on my 70th year! the Scripture limit of man's ordinary life, beyond which his years are but labour and sorrow. Therefore, if you drink my health on the 22nd, do also, dearest Isabella, remember me in your prayers, for I sadly stand in need of them. Oh! that I had the placid, patient, hopeful temper my dear old father had during the last years of his long life! During the dismal spring months I am full of bitterness, which seems quite unchristian, and for which I hope God will, for Christ's sake, forgive me. I fight against this melancholy bitter spirit as well as I can, and some of it may be set down to bodily disease...."

To Miss Fanny Hicks.

CAMBRIDGE, *March 23rd*, 1854.

"...Your beautiful superb slippers came yesterday—my birthday. So one day is now gone out of my 70th year. I once thought it impossible that I should ever be so old; not that I thought I was going to die, but because fifty or sixty years in prospect, seemed a prospect of an eternity. And the time does seem long, even in retrospect, when I trace it back from stage to stage. But when I think of the warm scenes of early life, the past time seems nothing. I seem to be still present with those who are gone from this world—to hear their beloved voices—to see their loving smiles—and I can fancy myself walking with them and talking with them among the pleasant fields of my childhood, or boyhood, or youthful manhood. Many of my beloved friends are gone never to return; but I am to follow them, and may that grace of a redeeming God, who (as I hope and trust) received them in heaven, at length, when it is His good will, receive me also!..."

1854. Æt. 69. *To Miss Fanny Hicks.*

TRINITY COLLEGE, *April 28th*, 1854.

"...You are a lass of good courage, and you know how to make yourself useful in the hour of need; and, dearest Fan, it may be needful that you should, sometime or other, be in the very chamber of death. Do, therefore, get over the horror of seeing a dead body, and, the first time any good Christian neighbour dies, do not avoid, but rather seek the occasion of seeing the dead face. Oh! the sight is cold, and at first it does shock one! But the sight is placid and peaceful, and there is the look of heaven in a calm dead face. I would not have you acquire a love or craving for such sights —no such thing. But, as death may come any moment to our fire-side, or that of our nearest neighbour, it is well not to have a foolish, and, I would say, an unchristian terror of his face...."

Sedgwick spent May and June at Norwich. His Residence over he returned to Cambridge for the meeting of the Archæological Institute, and then spent a few weeks quietly at Lowestoft.

To the same.

NORWICH, *June 19th*, 1854.

My dear Fankin,

...You are gay people, we are quiet people; but Mary and her sister and baby find me some employment when I am not otherwise engaged. I make use of your room as my study, and there I write my letters and sermons. The sermons (of which I have one each week) are always written by snatches of time during the early morning hours. I am pretty well, but not in good working condition; for the least unusual effort makes me stupid and gouty. So I do very little on principle. I sometimes regret the charming rides I had before the accident which spoilt my horse and my horsemanship; but I take short turns with Mary, and longer walks with Maggie, and so contrive to jog on, though I think more exercise would serve my purpose better, and tend to drive

the foul fiend away from my limbs. On the whole I think he has treated me rather better than during past years; but indeed I had a miserable winter. The weather has by no means been good. I had flattered myself with sweet moonlight walks in the cloisters; but it was all flattery, for the moon has hardly shown her face since I came here, and by her light I have not had one turn in the cloisters, though Maggie and I sometimes try our paces there while I am fumigating the spiders above our heads with a cigar....A Residence without you and Isabella, does seem strange and out of nature. 1854. Æt. 69.

I must return early next month (probably next Monday week), for the Archæological Institute meets this year at Cambridge, commencing on the 4th of July, and Prince Albert is to be down, as the Vice Chancellor tells me. Soon afterwards I shall be off (D. V.) for South Wales.

My walks sometimes make me quite melancholy. Palace shut. Deanery, shut. No Brother Canon here, etc, etc.... Does not this sound rather dismal? But, thank God, I have a quiet, cheerful, loving fireside of my own. I may well say fireside, for the weather here is still so cold that I cannot, with my gouty limbs, do without a fire. Yet tomorrow is the longest day.

I was dreadfully shocked at the news which came, I think, last Friday or Saturday. My old friend Colonel Moore of the Enniskillens burnt to death in the unfortunate transport[1]. It was a miserable death. Do you remember him? He was clever and well-informed; and he died doing a painful duty nobly. The shock of the news made me quite ill for two days, and brought back the gout.

There! the bells are tolling for evening service, and I must conclude. Baby has a great affection for me; and generally stretches out her little hands and makes all the

[1] The transport *Europa*, with troops for the Crimea, was burnt about 200 miles from Plymouth, 31 May, 1854. There was a difficulty in launching the boats, and Colonel Moore refused to leave the ship so long as any of the crew or soldiers remained on board. *Annual Register*, 1854, *Chronicle*, pp. 91—93.

1854. Æt. 69. signs she can for me to take her and give her a good dance, which she does delight in. A bundle of love to every one, and I send a royal salute of twenty kisses to you.

Ever affectionately yours,

A. SEDGWICK.

To Mrs Vaughan.

NORWICH, *July 13th*, 1854.
6.30, a.m.

My dear Mrs Vaughan,

Here I am once more, 'to assist' at the wedding of the Bishop's niece, who, at 11 a.m. this morning, is, we trust, to be united to Mr Thurtell, formerly a Fellow of Caius College, and now a Norfolk rector. I came, you know, on a like occasion last April, when I tied the knot which no fingers, but the bony fingers of death, can untie....Whenever I am seen in Norwich, all the lasses cry out with exstacy: 'There's Professor Sedgwick, and now we shall have a wedding!' I am looked on as Dan Cupid's whipper-in, and Hymen's torch-bearer. A fool may be a wit's whetstone (better a whetstone than nothing), and an old bachelor, if he do nothing else, may warn by his example, and teach men not to do as he has done, but to listen to reason, and learn how to love wisely before the soul is withered in a withered body. —Here Mrs Barnes came in to talk about packing up for Lowestoft, to which we are all going, so soon as we get away from the breakfast at the Palace, and have assisted at the shoe-shower when the two turtle-doves turn their backs upon us....

I have read Amelia Opie's *Life*[1]. I was astonished to find that in early life she had been such a radical; but I have heard some strange things since the book came out. On one occasion, at a contested election, she mounted a cart, and addressed the mob of Norwich in a speech which her male friends would not, at the time, have dared to make, or would have made at the risk of a halter! What think you of this?

[1] *Memorials of the Life of Amelia Opie.* By C. L. Brightwell. 8vo. Norwich, 1854.

1854. Æt. 69.

I believe this story to be true. Still there lurked much kindness in her woman's heart, or she would have been utterly spoilt—first by bad training, and afterwards by the flattery of the London seasons, during which she went from party to party, decked in bright colours, singing sentimental songs, and snuffing up the incense offered to her for her last published novel. I always thought that Opie had turned out an unkind husband. On the contrary it now appears most clearly in my mind that he loved her passionately, and that she never loved him at all. He was a man of genius, and wished for quiet domestic life. She wished for the adulation of society. Hence they were ill-matched, and she stole away from him whenever she could. And after he was dead, she forgot him altogether; for had her heart yearned towards his memory, her feelings surely would sometimes have found vent in words; but I never found a sentence in the volume such as a wife ought to write about a dead husband. All this I thought very strange and very unlovely. Was I not right in thinking so? Do say *yes*, in your next letter. Spite of all these things there *was* a woman's heart in her bosom. She loved her father tenderly; and that filial love it was, perhaps, that saved her from an old age of querulous vanity and selfishness. Be this as it may, by God's grace she *was* saved from such an old age—and great was the debt she owed to Joseph Gurney. I have often laughed at her Quaker cap; but I *now* think it was a providential mercy that she turned Quaker, and so snapped the cords by which she had been tied to a life which never could have satisfied the longings of her heart as she became older. All her latter years were calm, cheerful, sincere (I verily believe), and truly Christian. What a long yarn I have been spinning about dear old Amelia!

LOWESTOFT, *July* 14.

Richard and Mary and Maggie and baby and nurse are all enjoying themselves by the seaside. Baby, who did nothing at Norwich in good temper, now sleeps like a top; and,

1854. Æt. 69. wonderful to tell, I last night slept soundly more than six hours, and rose *refreshed!* Positively I have not had such a sensation before, for years. My bed is seldom a place of rest for long continuance; and I hardly remember the happy days when I used to awake in cheerfulness with a joyous feeling that I had slept enough, and that I was well—when I expanded myself into a spread eagle—gave one majestic yawn—jumped up at one spring—and then began to hum some tune in mirthfulness. I had such enjoyments for many years while I was young; and because they were so common, I forgot—I fear—far too often to thank God for them. And now that I have been so long shut out from such animal happiness I have often grumbled and forgotten the bearing of a faithful Christian. But you are not my confessor, so I will change the subject....

We had a good meeting of the Archæological Institute last week. The Prince came down one day. The weather vile—gave me the rheumatic gout, and an abominable tooth-ache. Spite of these ills I rather enjoyed the meeting....Kind regards to Dr Vaughan.

Ever affectionately yours,

A. SEDGWICK.

Invigorated to some extent by the sea-breezes, Sedgwick spent the rest of July and part of August at Cambridge, working with Professor McCoy. Towards the end of August they started for a short tour in South Wales. Their route and their object are stated as follows by Sedgwick in the letter prefixed to his paper read to the British Association at Liverpool in September.

The task undertaken by Professor McCoy and myself in 1853 was left incomplete; but we have this autumn taken it up where it had been abandoned, and completed our examination of various critical sections at the junction of the Cambrian and Silurian rocks which we had not been able to visit during the preceding year. Is there in South Wales any Middle Silurian group in which the characteristic Silurian and Cambrian types are so mixed and confounded as to be inseparable? In North Wales and Siluria we found no such group.

Wherever it had been erroneously laid down as one group we found it separable into two distinct stages—the upper of which contained a characteristic Silurian group of fossils—and the lower an equally characteristic Cambrian group. But I was informed that near Builth, in some of the eastern hills of Radnorshire, the Government Surveyors had found the very mixture of older and newer types which we had sought for in vain in our short excursions in 1852 and 1853. To the places thus indicated, taking the Presteign sections on our way, we first bent our steps, and the results of our examination will be given in the early part of this communication. They are in perfect agreement with what we had before seen in North Wales and Siluria. There is, we believe, no Middle Silurian Group like that laid down in the Government Survey; there is no confusion of organic types; the May Hill group, though in a degenerate and disconnected form, does exist, in the country here alluded to, as a distinct formation—separable from the so-called Lower Silurian rocks, and constituting a physical and palæontological base to the true Silurian System; and lastly, that System, when reduced to its true base, is, we believe, either in actual position, or in palæontological succession, discordant to the Cambrian rocks on which it rests.

1854. Æt. 69.

If these conclusions be true, there is an end of any legitimate dispute on nomenclature; for we have no example in English geology of two great formations which are, as a general rule, unconformable in their position, yet at the same time belong to a common series, and pass under a common name.

Having thus completed our observations on the groups connected with the May Hill Sandstone, we next examined the sections through the Llandeilo group in the valley of the Towy[1].

A rapid tour such as this—for they spent barely a fortnight in Wales—needs no detailed description. For once the weather was fine, and Sedgwick and his friend spent their days "toiling and broiling in a hot sun." As heretofore, life in the open air suited him, and we hear nothing of his ailments. "I do not stand hard work as I could do twenty years since," he wrote, "but I am far better than I expected to be. My skin is the colour of an old pack-saddle of the last century." In one of his letters we get a charming glimpse of Bishop Thirlwall.

"...After morning service at Carmarthen we found the Bishop's carriage waiting for us, and in a few minutes we were at the Palace door. The Bishop (Thirlwall) was an old friend of mine; and, for many years, a brother Fellow of

[1] *Philosophical Magazine*, 1854, viii. 472.

1854. Æt. 69. Trinity College. He preached in the afternoon in the chapel of the Palace. We greatly enjoyed the quiet shady walks in his pleasure-grounds, and the beautiful prospects from the banks of the river Towy. He is passionately fond of animals; and every day visits his cows, horses, pigs, and poultry, which he delights to feed; and they all run after him the moment they see him. His beautiful pleasure-grounds used to be filled with peacocks, turkeys, and some rarer birds; and a great bend in the river (which is banked off) is well stocked with swans and Muscovy ducks, and also some rare species of water-fowl. But last year he met with a grievous calamity. He covered his walks with some fine white gravel from a neighbouring mine. It contained some mineral poison which the birds swallowed, and the consequence was that he lost nine out of his ten peacocks, and a nearly like proportion of his other birds. At an enormous cost he procured a thick covering of a different gravel; but the poisonous particles occasionally tread out, and, though he is trying to rear a new stock of favourites, he has the frequent mortification of finding one of them dead. The water-fowl have suffered the least; and it is amusing to see the swans, ducks, geese &c, &c. all making towards the Bishop the moment he appears in sight, for he always has his pockets well stuffed with prog in which they delight[1]...."

McCoy returned with Sedgwick to Cambridge, and then took leave of him and the University before starting for Australia, where he had accepted the post of Professor of the Natural Sciences in the University of Melbourne. They parted with mutual regret. It has been already shewn that Sedgwick had formed a very high opinion of McCoy, both as a man and a geologist; and McCoy, being a warm-hearted Irishman, was enthusiastically attached to Sedgwick. "If I had stopped five minutes longer," he wrote after their last interview, "I should have blubbered outright; and as soon as I got out of your sight, I broke down altogether. The

[1] To Miss F. Hicks, 9 September, 1854.

greatness of my loss in losing the power of seeing and hearing you, and having you for a friend, is now upon me very sorely, and I feel that every day will only increase my grief." 1854. Æt. 69.

The meeting of the British Association at Liverpool was memorable for a spirited discussion in the geological section, which extended over the greater part of two days. Sedgwick's paper *On the May Hill Sandstone* drew remarks from several geologists, but, as Murchison could not then be present, the subject was adjourned. On the Monday following Murchison himself offered *General observations on the Palæozoic Rocks of Germany.* When he sat down the opposing forces ranged themselves in order of battle, and a war of words commenced which must have lasted for several hours. Personal grievances seem by common consent to have been excluded, and the speakers, including Sedgwick himself, confined themselves to the general question. Some of the ablest and most experienced geologists in England were present, and took part in the debate; but, as is so commonly the case on such occasions, they left the question as far from settlement as they found it[1]. In fact the debate is chiefly interesting as shewing how widely divergent were the views of those who thought themselves best qualified to speak with authority on the true classification of the Palæozoic rocks.

Two important distinctions had yet to be drawn before the rocks of the upper part of Sedgwick's Cambrian, and the lower part of the Silurian in the Lake District and North Wales could be correlated with those of South Wales. In the north the Coniston Flags had to be divided into a lower series connected with the Coniston or Bala Limestone, and an upper series connected with the Coniston Grit; while in Wales the Caradoc had to be defined, and some of the sandstones referred to it had to be included in the Bala Beds, and some to be bracketed with the overlying Silurian. This task Sedgwick had undertaken, and communicated the results of his investigations to the Geological Society, 3 November,

[1] The debate is reported in *The Athenæum*, 1854, pp. 1243, 1244.

1854. Æt. 69.

1852[1]. In this paper he drew largely upon his old notes, which he endeavoured to work in with newer information. In his papers of this date we constantly find supplements to, and corrections of, former papers, introduced into new work with which they have no obvious and necessary connection. In consequence we must always be careful to distinguish Sedgwick's brilliant descriptions of what he saw from Sedgwick's attempts to reconcile such observations with what other people had stated. Sometimes, but not often, he had forgotten his localities; and so in this paper we find a good deal of confusion in his description of the rocks which occur near Stretford Bridge[2], though Salter and McCoy had both pointed out that there were grave palæontological objections to his interpretation of the section. This mistake he corrected in a later paper. But, after allowing for all this, the great point of his paper was fully established, viz. that the name Caradoc Sandstone, that source of so much difficulty and confusion, had not been applied to the same series of rocks in different parts of even the same district. He shewed that along the junction of the rocks which he called Cambrian and those which he recognised as Silurian, that is, in the upper part of his Bala Beds, and at the base of, but connected with, the overlying Wenlock, there were great masses of sandstone; and that all of these, whether belonging to the upper or lower series, had been confounded under the common name Caradoc Sandstone. But he now pointed out that these were made up of two distinct sandstones: the lower "behaving with" the Bala Beds, and the upper forming a basement series passing conformably up into the Wenlock. The fossils of the two were quite different, and in support of this he quoted determinations by Salter, and gave lists drawn up by McCoy. The lower series, to which he wished to confine the name Caradoc Sandstone,

[1] See above, p. 231.

[2] This is expressly referred to by Sedgwick in his letter to Murchison, printed above, p. 256.

was characterised by *Trinucleus, Orthis flabellulum*, and all the organisms usually associated with them. The upper, to which he proposed to give the name May Hill Sandstone, was distinguished by the presence of large *Pentameri; Pentamerus oblongus, Pentamerus* (*Stricklandinia*) *lens*, and others. There remained much work yet to be done along the border lines where these two formations might be expected to come together, but the point was established that the sandy rocks of May Hill, Horderley &c., which had been included in the Caradoc, must be cut off from the sandstones of Bala or Caradoc age, and placed at the base of what Sedgwick called Silurian, and Murchison Upper Silurian. The details of this he worked at, as narrated above, in the two succeeding years[1], and published two more papers on the subject in the *Philosophical Magazine* for October, November, and December, 1854. 1854. Æt. 69.

Sedgwick saw at once the important bearing of this work upon the great question of the classification of the Cambrian and Silurian rocks; and Murchison also fully recognised it, for he had stated when describing the typical sections of Llandovery Rocks: "These hills (Mwmffre and Noethgrug near Llandovery) constitute the most interesting tract in Caermarthenshire, since they exhibit a passage on the one side into the Upper Silurian Rocks and on the other into the Upper Cambrian." The coloured panorama (to face p. 346) in the *Silurian System* indicates Noethgrug as Cambrian, while the Plate of Fossils of the Caradoc Sandstone (Pl. XIX. XX. XXI.) gives the characteristic fossils of what he then called Caradoc Sandstone, but it will be seen at a glance that most of these were fossils which never occur in what Murchison or the Survey afterwards called Caradoc.

After these discussions the Geological Survey re-examined some of the border land of Cambrian and Silurian near Llandovery, and eventually saw the necessity of recognising

[1] Sedgwick visited Wales with McCoy in 1853 (p. 261) and again in 1854.

1854. Æt. 69. the May Hill Series as something distinct from the Caradoc Sandstone, but, instead of accepting Sedgwick's name, they called the May Hill Sandstones Llandovery Rocks. At a subsequent period they divided these Llandovery Rocks into an upper and lower series, and bracketed the lower with their Lower Silurian, and the upper with their Upper Silurian,—a classification now known to be erroneous.

The argument which Sedgwick then met was that the Upper and Lower Silurian of Murchison were so linked together by stratigraphical sequence and common fossils, that whatever might be the history of their discovery and publication they must be considered as forming part of one system. But now he shewed that this was not the case; for the Caradoc, instead of being a transition series between the two, was, on the contrary, made up of two entirely distinct series differing in age and fossil contents, and the upper division formed a clear and natural base for the Silurian as he understood it, namely for all that part which was above the Bala Beds. The Bala Beds he defined to be all the rocks "which are above the Arenig porphyries and under the May Hill Grits." In this separation of the May Hill Sandstone from the Caradoc Sedgwick found an explanation of the supposed palæontological passage from Upper to Lower Silurian. The mixture of fossils existed in the Caradoc as defined by Murchison, but was due to the mistake of confounding together the sandstones which occur at the base of the Wenlock, and the lower sandstones which occur in the Bala Beds, and to not keeping distinct the fossils from the upper and lower divisions. It was obvious, in the next place, that if the most important member of Murchison's Lower Silurian was wrongly defined, the position assigned to the other might perhaps be not wholly accurate. Sedgwick therefore re-examined the evidence on which Murchison had established his Llandeilo series, and found that the rocks of the typical section at Llandeilo were not placed by him in their true relation to the great undulating masses to the north of them

which were stated by Murchison to be of Cambrian age. This correction appears in the sections of the Geological Survey. 1854. Æt. 69.

It was clear to all who understood the scientific point at issue that at length the real source of error had been discovered. Murchison's sections, on which he based the whole of his Lower Silurian classification, were fundamentally wrong; the so-called Caradoc was made up of different deposits of distinct age and origin, and its fossils were a mixture from various different horizons; the other member of the Lower Silurian, viz. the Llandeilo Flags, was only a local variety of the lower Bala Beds, which Sedgwick had put in their proper place in 1831 and 1832 in North Wales. Murchison, in the typical area of Llandeilo, had turned these beds wrong way up, having entirely mistaken their position. But now the first great step towards clearing up the difficulty had been taken. The Caradoc Sandstone had ceased to exist as a middle Silurian passage-bed; part of it was relegated to the subordinate position of local sandstones in the Bala series, and part was raised to the dignity of a clear, well-defined, easily traced, and palæontologically distinct base to the Silurian.

Of course this important position was not given up by Murchison and the Survey without some stout resistance. But they were obliged to accept the correction, and only covered their retreat by using the term, Llandovery Rocks, instead of Sedgwick's name, May Hill Sandstone. These facts explain some of the allusions in the following remarks by McCoy, Salter, and Rogers. McCoy writes (May 3, 1854): "Salter and Aveline's paper is a most complete admission of our (much contested) views on the Caradoc Sandstone of Sir Roderick and the Survey;" and again (June 9, 1854): "It is great fun to see the Survey marking out the May Hill plane of separation, after all their stout contradiction and opposition." Professor Rogers writes in greater detail:

1854. Æt. 69. "Your Cambro-Silurian controversy has interested me deeply. Do not imagine I mean only a compliment when I assure you how entirely convinced I have become, through your clear and temperate vindication of your labours, of the justness of your title to name and classify and call your own the great Cambrian Series you have so long and patiently studied, and so skilfully analysed. As long as the geologists of Europe employ a geographical nomenclature, you surely, by the right of real priority in thought and research, and by the claims of a sound philosophy in your inductions, are entitled to erect your Cambrian Rocks into an independent series equal in value to the Silurian, and to confer on them the appropriate distinctive name you have given them....James Hall has confirmed by the conclusive evidence of Comparative Palæontology this notion of the identity of these lower rocks with your Cambrians, in his *Essay* in Foster and Whitney's *Report on Lake Superior*. Hall has not yet, I believe, admitted your Cambrian Series in this country, for he entitles the Potsdam, Chazy, Trenton, and Hudson River rocks, *Lower Silurian Groups*, but he presents more distinctly than either he or others did before, the data whereon we may establish the general equivalency of the Lower American Palæozoic Strata to your Cambrian Series. I am satisfied that the evidence from fossils entirely sustains your remark in your paper of February 25th, 1852, 'that the development of animal types from the early dawn of a living world, appears to have been carried on in North America in strict analogy with the development now exhibited in the British Isles,' and your just inference that the scheme of development in your Tabular View will be 'more acceptable and intelligible to the American Geologists than any other scheme of arrangement of the British rocks which has yet been published[1].'"

That brilliant geologist and palæontologist Salter always treated Sedgwick with the greatest respect and gratitude, fully acknowledging what he had done in Wales. We see something of this in a letter written from Llangadoc in South Wales.

LLANGADOC, *April 15th*, 1852.

Dear Professor,

I do not like to bore you with letters, else I should have written sooner to thank you for your letter. It is too desponding however. Slops and confinement do not well agree with a man who has wielded a hammer over the hills so many years. But the fine weather is coming, and the hawthorn buds are bursting, and the redcap is trying his spring notes; the banks are "all primrose," and before long you will jump into a barouche, and well wrapped up to defend that ticklish throat of yours, will be far on the

[1] From Henry B. Rogers, dated Boston, 25 February, 1853.

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way to Ely before dinner time; and if you cannot at threescore and ten ride over the fens you have at least the pleasure of thinking how many would never have had that ride, or began a useful career in geology and some other ologies, but for you.

There are some of us owe a great deal to you, and never think of you without true regard. Here am I running along the South Welsh boundary—entrusted with the whole fossil work of three kingdoms! (for a while at least). And who took me into the field, and taught me to know β from a bull's foot, but yourself? I shall spend a couple of months with Jukes directly and he could say the same or a great deal more. And if you should postpone your quarto work *sine die*—a thing I devoutly hope you will not do—you still have put the old Geology of England on a firm basis, and taught us to begin where you left off. Nay, even the last controversy, which I was against at first, I begin to see was necessary. We have your papers (Phil. Mag.) here, and are trying to read the rocks along with them. It is rather odd that Aveline and I should in two cases be following your steps along a difficult boundary. This was an old plan for which we have only just got leave, and it is a puzzler. You shall know the results when we know them ourselves.

What do you think put me specially in mind of you to-night? The Welsh folks in the kitchen have been doing their worst to sing anthems! and I have been growling bass along with them. Do you remember giving out the Psalms for Peggy Jones to sing? (I hear Peggy is where she was—as bright as ever, not married yet). And do you remember the Sunday we mistook for Saturday at Can Office, and how the old Welsh lady softened when she found we were not heathen stone-breakers?

My dear Professor—the trust you express in your letter cannot be disappointed. If I may quote what is familiar to you—"Thou, O Lord, hast taught me from my youth: and hitherto have I declared thy wondrous works. Now also when I am old" &c. I hope our poor late friend my dear Master (Sowerby) may have lately leaned on the same firm rock. I violated your confidence by reading your letter to him, for I hoped it might do him good. He spoke very kindly of you, and shook hands with me. I little thought I should see him no more. Ever, dear Professor, yours,

J. W. SALTER.

In the midst of all this work Sedgwick took up his pen on behalf of his friend Professor McCoy against certain persons whose unjust reflections had been published in the *Memoirs* of the Palæontographical Society[1]; and also replied to some remarks implying a want of liberality in the adminis-

[1] *Annals and Magazine of Natural History*, April and September, 1854. See above, p. 270.

1854. Æt. 69. tration of the Woodwardian Museum in respect of allowing facilities for examination of specimens. Into these minor controversies we need not enter further, except to remark that Sedgwick's friends found in him no half-hearted champion. McCoy, whose cause he had taken up so warmly, himself gives a most interesting account of Sedgwick's telling, in the Combination Room of Trinity College, the story of the way in which Mr Adams had worked out by calculation the position occupied in the heavens by the planet Neptune, and his indignation that the credit of being the first to make so remarkable a discovery had been refused to the young Cambridge mathematician.

"When I first arrived at Cambridge,"[1] says McCoy, "I found Professor Sedgwick, then Vice-Master of Trinity, the most popular and beloved man in the University, and his reputation for eloquence, and for devotion both to the University and to his clerical duties, as fully recognised as his scientific standing and labours.

"The first night was a memorable one. There was a large party in the Combination Room at Trinity to see the new year in; and at it were not only the most distinguished men of Cambridge, but many strangers who had come down for the occasion. Adams was present, and the question of the independent discovery of the planet by him and Le Verrier, and which of them should have the merit of priority, was taken up in the most interesting manner by Professor Sedgwick, who told the tale to the whole listening table, with fuller knowledge of the facts than any one else had, from his intimacy with the Astronomer Royal, as well as with Adams.

"He related how Adams, as soon as he had taken his B. A. degree, worked the matter fully out to his own perfect satisfaction, and brought to the Greenwich Observatory a statement of the result obtained for the place of the planet, with a request that the observers would direct their

[1] In 1846. See above, p. 118.

instruments to the indicated spot, expressing his conviction that the new body would be found there. With thrilling words Sedgwick touched off the neglect with which young men of genius might have their labours slighted, and deplored the loss to the University, to England, and to their friend, of the glory of this most brilliant achievement, because nobody at the Observatory knew or cared anything about Mr Adams, nobody looked where he asked to have a scrutiny made, and his paper was put in a pigeon-hole, neglected and forgotten, until Le Verrier made a similar request, with the result that immediate attention was paid to him[1]. [The planet itself was at length observed, first at Berlin and then elsewhere, and by universal acclaim the discovery was set down to Le Verrier.] Then Adams and his old communication were remembered, and it was found that so long before he had pointed more precisely (there were only a few minutes I think between their places) to the proper spot on the heavens for the search, and had worked out the whole of the calculations with perfect accuracy, completeness, and elegance. To Adams' great discomfort Sedgwick told how his modesty prevented his troubling the Astronomer Royal or any of the officials further in the matter, and how Prince Albert and the Queen felt so strongly on the subject that Adams was asked to accept knighthood at the Public Commencement in 1847 in proof of their recognition of his wonderful work—and with regret that he would accept no such recognition the story ended. A dead silence fell upon the company. No one felt inclined to break the spell by uttering a word, and Sedgwick, closing his eyes and leaning back in meditative silence, enlisted the sorrowful sympathy

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[1] Several circumstances, accidental and other, combined to prevent the discovery of Adams being brought before the public earlier. The required sheet of the celestial map happened not to be in the Cambridge Observatory, and though Professor Challis had detected the planet, he waited a fortnight to see whether it moved, and in the meantime it was observed and recorded at Berlin. Earnshaw wanted Adams to communicate his observations to the Cambridge Philosophical Society, but unfortunately this good advice was not followed.

1854. Æt. 69. of all. Suddenly he started up with fiery energy, and raising his arm with a fierce gesture startled us all by exclaiming: '*Curse their narcotic souls.*' What was to have come after this we never heard, as the burst of laughter with which this beginning was received seemed to awaken him as from a dream. He looked round to see what was the matter, and, as he did so, the boyish good-natured beaming expression came back,—with his favourite gesture of rubbing his hand over his face and eyes, and a hearty laugh at himself—and thus my first experience of his powers of speech ended."

We will now return to the autumn of 1854. For some time Sedgwick had felt the need of a holiday, "to drive away the last remnant of gouty hypochondria[1]," and brace himself for his lectures and other duties. Various plans were discussed and rejected, and finally it was decided that he should take his two nieces to Paris. They had a pleasant journey by the way of Boulogne and Amiens, where they halted to see "the finest cathedral in the world;" and he was "astonished and dazzled[2]" at the sight of Paris, which he had not visited for twenty years. But the weather was hot, he over-heated himself with sight-seeing, caught a chill, and was confined to his room with bronchitis during the greater part of the visit.

During the Michaelmas term Sedgwick resumed his lectures, but with difficulty. "My lungs are tender," he wrote, "my nerves are shaken, and I am forced to take the greatest care of myself." His spirits, too, were much depressed by the news from the Crimea, where he watched the course of events with the deepest interest. "The news is in one sense glorious, but alas! dismal. 'Tis like a halo over a grave. Since the siege began I have had dismal anticipations, for I am old enough to remember Napoleon's glowing accounts, in his bulletins, of the Russian climate. And then

[1] To Hugh Miller, 9 December, 1854.
[2] To Miss Kate Malcolm, 7 December, 1856.

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came the 6th of November, 1812[1], after which followed the wreck and utter destruction of the finest army that ever took the field. May God save our army! What frightful havoc among the light cavalry! What carnage and audacity for no purpose! I could not sleep last night for thinking of these horrors."

To Miss Isabella Sedgwick.

CAMBRIDGE, *December 15th*, 1854.

"...The Astronomer-Royal and Mrs Airy are now at the Lodge, and I drank tea with them this evening, after the Commemoration feast. Fifty years are gone since I attended the Commemoration when I was a freshman. At that time England was armed to the teeth, and eight years afterwards I had the good fortune, on the evening of the Commemoration in 1812, to carry to the Combination Room the news of the breaking-up of Bonaparte's army. I shall never forget the excitement. Many of the persons present, for very joy, wept and sobbed like children."

Shortly afterwards Sedgwick gave before *The Athenæum* of Bury St Edmunds the lecture on the structure of the extinct Sloths which he had already delivered at Ipswich and Leeds. In the course of the following year he was persuaded to print it for the benefit of a charity; and we are thus enabled to form some idea of how he made such a subject interesting to a popular audience. "The Professor began" we read, "by a short allusion to the great change in the political horizon since the autumn of 1812, when he last set his foot in the room where they were then assembled. It was on a festive occasion very different from the one which brought them together now; but English hearts were then deeply anxious (even in the midst of their festivity) about the fate of the Russian Empire—threatened as it was, and

[1] Sedgwick probably refers to the first fall of snow, which is stated in some of the accounts of the Russian campaign to have taken place at this date.

1854. Æt. 69. almost overwhelmed, by the great invading hosts of the first Napoleon. Western Europe is now threatened by the Autocrat of Russia; and England, in firm alliance with another Napoleon, is once more doing battle in the cause of national honour and European liberty. If he had anything to regret," he said, "it was that he had not the great privilege of addressing them in a cause in which the hearts of all English men and English women beat in unison—of inviting the members of *The Athenæum* to combine their efforts for the relief of our heroic soldiers in the East. That luck had fallen to another, at the previous meeting of *The Athenæum;* and he must proceed without further preface to discuss the less exciting subject of this evening's lecture."

After this exordium he sketched the divisions of the *Mammalia*, according to Cuvier, and the characteristics of the special group, the *Edentata*, to which both recent and extinct Sloths belong. Then, after explaining the anatomy and the habits of the existing Sloth of South America, he showed how a study of the bones of the gigantic *Mylodon* and *Megatherium* leads us to infer that their habits were analogous to those of the small animals by which the family is now represented. This part of the lecture is extraordinarily graphic, even in its printed form; and must have been far more so when orally delivered. Sedgwick never read his lectures, though he generally prepared copious notes, so as to have an outline of the whole drawn clearly in his mind before he began. Then he trusted to the inspiration of the moment for the language and the details.

It has been frequently pointed out in the course of this narrative that next to the discovery of scientific truth the main object of Sedgwick's life was to point out to all who listened to him or read his works the value of such discoveries from a teleological point of view. The opportunity afforded in this direction by a popular address was not to be overlooked. In consequence the concluding pages of the lecture deal with the evidence to be deduced from these fossils of a

unity of plan in creation, and a First Cause. These reflections do not, as a general rule, differ materially from those we have noticed on similar occasions; but among them there is one passage which deserves quotation, as illustrating Sedgwick's tone of mind towards any speculations which raised secondary causes into undue prominence. This is specially interesting when we remember that those very remains were discovered by Darwin, and that "the vivid impression produced by excavating them with his own hands formed one of the chief starting-points of his speculations on the origin of species[1]."

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'Are the small living sloths to be regarded as the natural descendants of the ancient giants? To answer this question in the affirmative, is not to build our conclusions upon experience and inductive evidence; but is, on the contrary, to build upon a rash and unwarranted hypothesis, by a virtual repudiation of such evidence. We have no *example*, in the living world, of the *passage*, or *transmutation*, of one perfect *species* into another. There are many progressive changes in the early stages of animal life; but all such changes are bound together by undeviating laws; so as, in every case, to end in a *species* identical with the *parent species* from which the animal sprung. The constancy of organic laws is a truth of science as certain as the constancy of the laws by which dead matter is held in its present order. The art of man, and the effects of domestication, have produced many modifications of animal form, but not so much as one change of species; and it has been found that when a species that has been modified by domestication returns to its wild state, it gradually returns also to its original wild type and character. The animals entombed in the old catacombs of Egypt are not specifically different from those which now live. Between the extinct and living Sloths there is a wide organic interval. They are of the same *Order*, but they are neither of the same *Species*, nor the same *Genus*; and there is no known law of nature by which we can bridge over this wide interval. Sound philosophy holds no dealings with hypothetical laws, which are neither proved nor suggested by the facts of experience; and hence we reject the fabulous genealogy which derives the parentage of the living forms of nature from those extinct animal forms which are entombed in the ancient strata of the earth.

Sedgwick spent the year 1855 much as he had spent the year 1854—in trying to shake off a succession of colds,

[1] *The Life and Letters of Charles Darwin*, i. p. 276.

1855. Æt. 70. accompanied at times by other and more distressing symptoms. The thoughts and occupations by which this tedious employment was diversified are related with sufficient detail in the following letters, with the exception of one important matter, which must be briefly noticed.

In April 1855, the Government determined to introduce into Parliament a Bill for the reform of the University of Cambridge. It was proposed to appoint a Parliamentary Commission, to give effect to the recommendations contained in the Report of the Royal Commissioners, published, as has been already related, in August, 1852. Sedgwick was invited to be one of these new Commissioners, and, after consultation with Whewell, and possibly with others, accepted. The Bill passed the House of Lords, and might possibly have passed the House of Commons also, had not the promoters of it discovered that they had misunderstood the state of public opinion at Cambridge, where their proposals encountered determined opposition. It was pointed out to them, in a petition agreed to at a meeting of Members of the Senate convened in the Arts School by the Proctors (7 May), that their suggested constitution would "continue, with very slight modifications, the government to which your petitioners are now subject;" in other words, that it would reserve to the Heads of Colleges that despotic and irresponsible rule over the University which men of all parties had made up their minds to put an end to. Among the remonstrances which the measure called forth, none created so great a sensation, or produced such a lasting effect, as two letters to the Lord Chancellor, signed by four of the late Commissioners, Peacock, Herschel, Romilly, and Sedgwick, together with their secretary Mr Bateson. These letters indicated, in forcible language, the most obvious defects of the proposed legislation, and suggested the points to which, in the opinion of those responsible for the letters, special attention ought to be directed in any measure of University reform. The Bill, notwithstanding the introduction of amendments which re-

moved several of its most glaring defects, was abandoned, and when a new measure was introduced in 1856 different Commissioners were nominated. 1855. Æt. 70.

It is not easy to estimate Sedgwick's share in this matter. It is certain that he did not write the letters, of which Peacock was probably the author; but at the same time we may be sure that he would not have signed them unless he had cordially approved the policy they advocated. In support of this view we will quote a few sentences from one of his letters to Whewell, who supported the Bill, and vehemently disapproved of the action of the late Commissioners[1].

To the Master of Trinity College.

May 27th, 1855.

"...As to our opinions respecting the University Bill, they differ so widely that it is absolutely impossible to bring them into any near accordance. The attempt virtually to perpetuate, in the latter half of the nineteenth century, the despotic constitution of Whitgift, was, in my mind, an absurdity into which I should not have thought it possible that any Cambridge graduate could have fallen. And to attempt this in a Bill which had to pass a reformed parliament, and after a more liberal constitution had been given to Oxford, did not, in my mind, lessen the absurdity. Who prepared the original draft of the Bill I have no means of knowing, but assuredly he mistook the wishes of the Commissioners, while he never condescended to consult them. And, if he looked on the intended Bill as a pacific measure, which was to remove enmities in the University, he must have been very little acquainted with the temper of University men, and with their reasonable hopes and expectations...."

In the latest edition of the Bill that we have seen (12 June) Sedgwick's name is replaced by that of Mr Walpole. His reasons for withdrawal may be readily accounted for. The letters he wrote to Colonel Grey when asked to be a

[1] Whewell's *Life*, by Mrs Stair Douglas, pp. 493—444.

1855. Æt. 70. Royal Commissioner in 1850 shew his reluctance to take up a position antagonistic to those whom he had known longest and respected most. The attitude of Whewell—though Sedgwick, in writing to Peacock, treats his violence with good-humoured indifference—had probably impressed him more deeply than he cared to admit; and he thought it better to escape at once from a position which would inevitably lead to further annoyance.

To Miss Fanny Hicks.

CAMBRIDGE, *January 18th*, 1855.
(Candlelight, 7½ a.m.)

Dearest Fan,

Your kind and 'pressing' letter came to me yesterday. But indeed I want no pressing, and it is of no use. I delight to spend a few days at Scalby when I can do so. I cannot, however, always do so when I like, for I am like an old post-horse that has stiff joints, and not a leg to stand upon. I have more work here than I can get through; and yet my friends are pulling at me on all sides. I *did* lecture at Bury. They have urged me very much to give them a lecture in London—but I have refused; and, only yesterday, I had a most pressing letter from Somerset House, urging me to attend their last night's meeting. Perhaps I should have obeyed this last call, had the weather been milder. But it is now, at length, very severe, and I dared not venture...I have, however, still on my hands an old unperformed promise to the Natural History Society of Kendal, of which I am the President. They have built a new Museum and Lecture Room, for which, by the way, they taxed my purse; and I have been urged by a half-a-dozen people (the Mayor of Kendal among the rest) to go down to open the New Museum with a public lecture. I have promised to do so, if I can keep my weasand in open order; and I expect them to fix the time some day during the first fortnight of February...So no more at present from your long-winded, prosy, wheezy, old uncle,

A. SEDGWICK.

To Miss Gerard. 1855. Æt. 70.

CAMBRIDGE, *January 20th*, 1855.

...Poor dear Edward Forbes! His death was indeed a shock[1]! I sat, day by day, at his side in the meetings of the Geological Section at Liverpool; and it was my agreeable task to propose a vote of thanks to him when the Section broke up at the end of the week's session. He was well and joyous then. We shook hands when we left the room, and I little thought that I was never to see his face again. The evening after we broke up I met his charming young wife, who was then full of happiness and domestic joy, and she thanked me, more than once, for the kind words I had spoken about her husband. Professor James Forbes[2] has resumed his lectures, you tell me. All good men of science will rejoice at his restoration to vigorous health; for he is a man of great attainments, and of great inventive power in the application of his knowledge. His retirement from the active duties of his Professorship would be a national loss....

I have once or twice seen Mr Maurice, and I know some of his dearest friends. I have read several of his books. His volume on *The Prophets and Kings*, and his volume on *Sacrifice*, were his latest works which I have read. All his works have one great charm—they have the savour of an honest, sincere, and truth-loving mind. They all contain original thoughts, and original matter, which is another charm. But I cannot always go along with them without halting and stumbling. Sometimes I differ from him on points I think I understand; but, more frequently, I have a positive difficulty in understanding what he means. His thoughts run in a train so different from mine. I think also that he is often at fault on matters of practical wisdom; and (independently of

[1] Edward Forbes had been elected to the chair of Natural History in the University of Edinburgh vacated by the death of Professor Jameson in April, 1854. He died 18 November, 1854. At Liverpool he was President of the Geological Section.

[2] James David Forbes, Professor of Natural Philosophy in the University of Edinburgh, 1832—1859. He died 31 December, 1868.

1855. Æt. 70. Bible interpretation where the words seem to be against him) why did he disturb the congregation by his doubts and surmises on the very point which led to his removal from the Professorship at King's College? There was a want of practical wisdom in this. And Sir James Stephen (our Professor of Modern History) committed the same blunder the year before[1]. If Mr Maurice could have proved that he was right, and that others were wrong—good and well! Let truth be told. But I defy him to *prove*, out of the Bible, that the punishments of God in a future state are limited in time. I dislike the discussion altogether, and I owe no thanks to Mr Maurice for disturbing our faith by making Hell into an universal Purgatory. I am forced to write plainly. Away with mincing words, when we have things of moment in our minds....

From Mrs Willoughby Moore I have not yet heard. I wrote to her a month or two after the horrible, but glorious, death of her husband. It was a case of martyrdom to a sense of duty. Some one told me that the Queen had given her a set of appartments in Hampton Court. There! have I not put two *p's* in *apartments* to magnify the Queen's gift? But I have outlived my memory—my teeth are dropping out of my head—one of my eyes is too dim to help me to read—the other eye, to make up for it, makes double images—my memory is as bad as a Sebastopol ambulance, it carries nothing in it—and now I have forgotten how to spell. Never mind all this, if you can but spell out my meaning! The last thing I heard of Mrs Moore was that she had offered to go out as a nurse to Scutari. Whether this offer was accepted, and where she now is, I cannot tell you. The offer was worthy of the widow of Willoughby Moore; and I know that she was very deeply attached to her husband[2]....

[1] In *The Epilogue*, appended to the collection of his *Essays in Ecclesiastical Biography*, 2 vols. 8vo. Lond. 1849, Sir J. Stephen had expressed his unwillingness to believe the doctrine of the eternity of future punishment. He was appointed Professor of Modern History shortly after this publication.

[2] Mrs Moore did go to the East as a nurse, and died at Scutari in the course of the year 1855.

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You are right in calling Miss Nightingale a 'noble creature,' and I utterly detest and abhor the stupid bigotry which has tried to get up a cry against her, and the ministering angels who went out with her; and only second to Miss Nightingale is Miss Stanley—the eldest daughter of the late Bishop of Norwich—a little, thin, feeble-looking woman, but of most heroical courage and self-devotion, who went out (some time after Miss Nightingale) with forty-seven additional nurses...

Alas! I have lost many friends since the war began. At Norwich (ever since I was Canon of the Cathedral) there has always been a regiment, or a part of a regiment, of cavalry, and the regiments were changed almost every year, so that I knew personally and intimately very many of the gallant men who have fallen, by pestilence, or the sword. Isabella learnt to ride in the barrack riding-school. She was an excellent horse-woman; and the officers of the light cavalry constantly lent her one of their beautiful chargers, with which she used to fly across the country in our morning rides and then pull up till I joined her. Three fine, gallant young men dined with me a day or two before their regiment left Norwich, and all of them fell at the fatal charge—two killed and the third desperately wounded. But my nieces have not been content with sentimental sorrow. They have worked hard and to good purpose for our poor soldiers, and both of them would have gone out with Miss Stanley had they been permitted. They have spent all their pocket-money; they have begged lustily, and through the kind intervention of merchants they bought large webs of coarse flannel at an almost incredibly small cost. At Scalby Fanny procured the *gratuitous* help of seventy-three poor women of the parish. They refused all money wages, and worked for her almost night and day till all their shirts and waistcoats were made up and sent off. Isabella in like manner employed scores of poor women to help her, and they have sent off hundreds of large coarse and warm stockings, etc., besides flannel shirts. Tempests purge the air; and war and pestilence (horrible evils

1855. Æt. 70. in themselves) call forth healthy feelings, and nourish virtues which would die for want of exercise without them. To do our best to extract good out of evil is a part, and an important part, of Christian duty. I cannot think England can decline while God vouchsafes to put so much true, generous, self-denying good in the hearts of so many English men and women. Ever your affectionate old friend,

A. SEDGWICK.

To Mrs Richard Sedgwick.

LONDON, *April 21st*, 1855.

"...Oh! but you told me to describe the dress of the Empress[1]. Her gown was white, and very full. It looked so puffy that a blast of wind might have blown gown and Empress across the Park. Her figure is good and elegant. Her manners very charming, and there is an apparent want of vigorous health which does not spoil her beauty (for she has a very fair face), and makes her interesting. She had beautiful flowers on her petticoats; but not over many, for her dress, though splendid, looked simple. In front of her bosom she wore a gorgeous ornament of diamonds—I mean down on the dress—and she had a dazzling necklace of very large diamonds supporting a diamond cross which rested on her snow-white bosom. Her hair is light brown, and was very simply dressed, except that she had a very splendid diamond star on the left side of her head...."

To James Smith, Esq.

EUSTON SQUARE, *September 21st*, 1855.

My dear Sir,

I arrived at this place, by a northern train, very late last night, yet I am, according to custom, up before the waiters are ready to prepare my breakfast.

Let me then employ a few spare minutes in paying one

[1] Sedgwick had met the Emperor and Empress of the French at a Concert given at Buckingham Palace on the previous evening.

of my many debts—a debt of thanks I owe to yourself for the valuable work on St Paul's voyage and shipwreck[1], and for the pleasure and profit I have had in reading it. I had heard of it, but I had never read it before you gave me a copy of it. I think you have made out your case, at every point and turn, to perfect demonstration. I have not yet read all the dissertations; but so far as I have read them I quite agree with them; but they discuss points about some of which I am a very poor judge. I wish to live and die with the hopes of a Christian. If these hopes were away, what would the remnant of my life be good for? A stammering remnant of a babbler's dream. 1855. Æt. 70.

I do not think atheism can ever do much *general* mischief —though this is the form that the infidelity of this day is putting on. It is rank atheism under the form of pantheism. But a philosophical scepticism, and a disbelief of the supernatural, and a disposition to resolve biblical history and the gospels into a succession of myths indicating successive conditions of the human inventive mind, is a very prevalent, and I think a mischievous, form of infidelity.

Most young men who think for themselves have their moments of doubt, and I have known many who seemed to be seeking a resting-place in a calm philosophical deism; and on that shoal (or on something worse) they were almost sure to strike if they were men of licentious life. If I was ever drifting in that direction (and I hardly remember what my early dreams were), I was arrested in it by Butler, who proved to me that there was no refuge in deism—that it was encumbered with the same difficulties as revelation, and I never, save for a moment, so far belied my nature, as to doubt about the being of a provident God and Creator.

Still there were difficulties. Had we the Bible in its purity? Had it not been tampered with? Was it not therefore mythical in part? Paley's *Horæ Paulinæ* was the first work that on such questions set my heart at rest. He

[1] *The Voyage and Shipwreck of St Paul.* 8vo. London, 1848.

1855. Æt. 70. proved to demonstration that the *Epistles* of Paul, and the *Acts* of Luke were real historical documents, and substantially true—that any mythical interpretation of them was quite out of question. This is Sunday morning, and I have been sending you a sermon ; and my coffee is now on the table—.

Let me, then (for I have now refreshed the inner man), come back to your book. I would put it side by side with the *Horæ Paulinæ* as a demonstrative proof, so far as it goes, of the historical truth of the gospel narrative. St Luke and St Paul were true men, and published what they believed true. We cannot separate the historical part of their works from the theological, or the natural from the supernatural. They must stand or fall together; and if there be difficulties in revelation (as no doubt there are) there are ten thousand times greater difficulties in the transcendental metaphysics and mythicism of Strauss, and all the lesser fry of that school. I detest them, because I think them false to history, and untrue to the wants of human nature. And on such grounds I would cast them to the dunghill, and leave them there to rot. I do not know that you will go along with me; but I *do know* that I have been delighted with your *Essay*.

Give my kindest remembrances to your family, and believe me very truly and gratefully yours,

A. SEDGWICK.

The long-promised lecture at Kendal was delivered in the new lecture-hall of the Literary and Scientific Society, on Monday, 8 October. The subject was the geology of the Lake District, with special reference to the influence of the Gulf Stream, and the scattering of the Wastdale granite boulders over northern England by glaciers. The subject proper ended, Sedgwick reverted to the Crimean war, and the dreams of "universal peace, so delightful to a philosopher," but, he added, "however much we long for peace, let us by no means gain our wish by truckling, or by servile humiliation. Still let the day of peace be prayed for." On the next day

he was entertained by the Society at a public breakfast in the Assembly Rooms. An address was presented to him, in reply to which he spoke feelingly of his long connection with Kendal, and gave many delightful recollections of bygone days. 1855. Æt. 70.

When the work of the Michaelmas term was just beginning, Sedgwick was greatly distressed by the illness of his sister, Margaret. She had been ill for some time, but, though she was in her 74th year, it was thought that she might still recover. On consulting the surgeon who was attending her, he learnt, suddenly and unexpectedly, that the case was "utterly out of the reach of help and out of hope." The shock was very great, and brought on a return of some of his worst symptoms. The next letter was written soon after he had received the fatal news.

To Miss Kate Malcolm.

CAMBRIDGE, *October 25th*, 1855.

My dear Kate,

Your very welcome and kind letter found me yesterday in my College rooms. I was not in spirits to reply to it immediately; nor am I now in spirits to reply at any length, or to attempt a compliance with your request that I would send you 'my impressions of your father's character.' God willing I will try to do so soon—not elaborately, but simply, and send you the result....

To-day I am to begin my lectures. But my health is shaken, and I begin my work in sorrow, and in dread that I may this year break down with fatigue as I did last year. The last academic year (which begins, you remember, in October) was to me a year of solitude and gloom. I had an attack of bronchitis which lasted more than six months, and during the long, severe winter I was a close prisoner in my College den. When I recovered the *full* use of my lungs (not before the middle of May) I suddenly 'got up my condition,' as they say of horses; but I was liable to attacks

1855. Æt. 70.

of congestion and giddiness, which were relieved by copious bleedings from the nose. I was ordered to abstain from work of every kind—to think of nothing hard—to be idle on principle. So, while at Norwich in May and June, I preached old sermons, and spent much time in romping and playing ball, &c. &c., with my nephew's children—especially my little merry god-daughter, who gave me her heart in return. In August and September I had a charming tour in the Highlands of Scotland with two cheerful nieces. During this tour I almost shook off the attacks of giddiness; but not perfectly, and I still feel them occasionally, but in a mitigated form. My joy was now and then clouded by sorrowful memorials of the effects of time. All my former Edinburgh friends were away, and most of them are dead....We had glorious weather —we gathered happiness and health at every step. We halted at Glasgow during the meeting of the British Association—and we emerged from the 'land of cakes' by the valley of the Tweed. We dined at Abbotsford with Mrs Hope Scott (Sir Walter's grand-daughter). Just a quarter of a century before I dined in the same room with Sir Walter Scott and a most happy family party of eight, including his sons and daughters. Of that party I am now the only remnant. A very delicate and beautiful daughter is at present the only hope of the house of Scott of Abbotsford. Similar memorials of the effect of time I had among the Cumberland lakes, to which I conducted my nephew and his wife for a few days. The works of God were as durable and as lovely as ever, but most of my old and beloved friends were away. We did not see Southey, but we saw his grave and monument. We did not see Wordsworth, but we saw his grave, and the grave of his son and daughter. 'Tis time to stop, and I have been putting my paper in mourning by spilling the ink. Just room to say love, best love, to your mamma and sister. May God bless them and you.

Ever your affectionate old friend,

A. SEDGWICK.

To Sir J. F. W. Herschel. 1855. Æt. 70.

CAMBRIDGE, *December 17th*, 1855.

My dear Herschel,

I sometimes send long letters to ladies—to my dear friend (and niece) Isabella Herschel among them. But I now send you a letter of business, and it shall be short. Did you receive the second *Fasciculus* of the *Cambridge Palæozoic Fossils?* Have you received the third? You were down in my list; but my publisher has either forgotten himself, or has done my work very tardily and imperfectly. You must have a perfect copy of the work as a goodwill offering from one who honours you in the best way he is able. And mind! When you have from me the perfect work, you must put it in the hands of a binder—or rather, you must, if you please, leave it for me in a parcel at the Geological Society or at my publisher's. I will then get it bound in a dress after my own fashion, and send it to you again with a new coat on its back. For I do not wish to be dirty, and out at elbows, when you do me the favour to admit me as a guest into your house. I mean what I say; and you must, Sir John, fall in with an old man's whims....

Tell my dear niece Isabella, that (along with her namesake) I saw the top of Ben Nevis—trod on the top of Ben Lomond—visited Staffa and Iona, and during the voyage preached a sermon from the top of a beer-barrel[1]—that we saw the finest Highland lakes—that we ate oatmeal porridge at Fort William—that driven by a shower into a Highland hut we had a long talk with a midwife, who explained many of her difficult cases, to my great amusement, and to my lasses great confusion—that we saw Burns' house and monument—

[1] There is a report of this address in *The Cambridge Chronicle* for 15 September, 1855, extracted from *The North British Daily Mail*. Sedgwick addressed a party of excursionists during the voyage from Staffa to Iona on the geology of the island they had just left. From this subject he passed, *more suo*, to the connection between science and religion; the present state of the Highlands as contrasted with the strife and bloodshed of the Middle Ages; the influence for good of the Duke of Argyll; the Crimean War, etc.

1855. Æt. 70. that we dined at Abbotsford—saw Melrose, but not by "pale moonlight" (as I had done before)—and that we did many other things most worthy of notice, had I not promised to be short, and were not my paper at an end. So a merry and happy Christmas to you all, and my best love to all your ladies.

Ever, my dear Herschel, most truly yours,

A. SEDGWICK.

An incident occurred at the meeting of the British Association at Glasgow, which is worth narrating. Murchison made a communication to the Geological Section on certain rocks in Sutherlandshire which he had recently examined. In the discussion that ensued, Sedgwick rose to speak, and began by taking off a heavy great-coat in which he had been sitting. The audience began to titter, whereupon Sedgwick exclaimed, in his happiest tone and manner: "Oh! I am not going to fight him!" At this there was general applause and laughter and the discussion passed off without unpleasantness, Sedgwick supporting Murchison on the points at issue[1].

The work on the British Palæozoic Rocks and Fossils, alluded to in the last letter, was now complete. It had occupied Sedgwick between five and six years, and had been published in instalments—the first *Fasciculus* in 1851, the second in 1852. In its completed form it is a goodly quarto, containing 661 pages of descriptive letterpress, illustrated by 25 plates of new or imperfectly known species, and preceded by an *Introduction* of 98 pages.

As originally planned, it was obviously intended to form part of that work on the older rocks which Sedgwick had been intending to write during the whole of his geological life. When it was first begun he employed Mr Salter as his artist, who speaks of his wish to become to him what d'Archiac had been to Murchison. This scheme having been put an end to by his appointment to the Geological Survey, McCoy took his

[1] Geikie's *Life of Murchison*, ii. 206.

place, and to him the descriptive part of the work is due. The plates were drawn, under his direction, by Mr G. West. These were executed at Sedgwick's sole charge, the cost of printing being defrayed by the Syndics of the University Press. The descriptions, it must be remembered, are limited to fossils in the Geological Museum of the University of Cambridge. 1855. Æt. 70.

When McCoy's work was ended, Sedgwick promised him that he would "draw up a Synopsis of the British Palæozoic System, so far as it appeared to have been made out on good physical evidence; and put his work in such co-ordination with my own, that each specimen might (with some very limited exceptions) be referred to its right place in the British Palæozoic series, to be laid down by myself on the positive evidence of sections[1]." These words shew that Sedgwick then intended to write an introduction which would have been an outline of his long-promised work, and might have been filled up subsequently when he had leisure to do so. But, unfortunately, when the third *Fasciculus* was ready he was unfit for sustained labour, and, as he sorrowfully admits, "instead of a Synopsis based on numerous sections, derived chiefly from the Cambrian, Silurian, and Cumbrian mountains, I at length hasten to the press (constrained to this step by a duty I owe to Professor McCoy) with little more, by way of introduction, than a corrected and enlarged Tabular View—resembling that which was prefixed to the second *Fasciculus* of the *Cambridge Palæozoic Fossils*."[2] Would that he had confined himself to that limited field; or had supplemented it with nothing more than a history of the Woodwardian Museum, and a tribute to the energy and skill with which McCoy had described some of its most important specimens. But his mind was full of the Cambro-Silurian controversy, and the greater part of the *Introduction* is occupied with an account of his own work in Wales, and a vehement denunciation of the part played by Murchison with reference to it.

[1] *Introduction*, p. v. [2] Ibid.

1855. Æt. 70. Moreover, as it was written in fragments, interrupted by long intervals of illness, or attention to other engagements, it is deficient, as he himself admits, "in a true unity of plan. I have to ask the reader's indulgence," he says, "for some clumsy verbal repetitions which ought to have been avoided; and in some of the more lengthened arguments I have so far repeated myself, that I appear, while writing at Norwich, to have partly forgotten what had been, some months before, written at Cambridge[1]." It is much to be regretted that an unhappy combination of circumstances should have prevented Sedgwick from expanding his large views on the whole subject here referred to in a treatise of permanent value,—views which have now to be painfully extracted from papers scattered through various journals.

His work between 1851 and 1855 is marked by more definite plans, and greater vigour, than that which preceded it. He had noticed the fact that the Cambrian, and still more the Silurian, rocks of North and South Wales belonged to different types, and that the rocks of the Lake District and the south of Scotland agreed in general character with the North Wales type. In the hope, therefore, that further light might be thrown upon some of the difficulties of classification he had met with on his old ground, he made several excursions along the hills of southern Scotland. That area is only now beginning to be understood, after much palæontological work by Professor Lapworth, and detailed mapping by the Geological Survey. Sedgwick's letter about it to Hugh Miller, which has been already quoted[2], might have been written a few years ago instead of in 1848.

Sedgwick made an expedition into Devon and Cornwall in 1851, this time with Professor McCoy, to see how far recent observations might induce him to modify the views he had formerly arrived at respecting the grouping of the Culm Measures, Devonian, and true Greywacké in that area[3]. His

[1] *Introduction*, p. lxxxviii.

[2] See above, p. 147.

[3] See above, p. 208.

attention had been called to some points, especially through the publication, by the Society for the Diffusion of Useful Knowledge, of a geological map of England in which certain tracts along the South Coast were coloured Silurian by Murchison. He combats this view in respect of all save the rocks of Gorran, and, reverting to the old difficulties, gives an account of how, in 1836, they had "sent a good series of the fossils of the Petherwin and Barnstaple groups to London," and how "every species was called Silurian." This mistake had inflicted on him the labour of a considerable part of two summers, for he returned by himself to hammer it out[1]. "In the hopes," he says, "of clearing away this difficulty, and never for a single moment suspecting any great mistake in the determination of the fossils of these groups, I traversed many parts of Devon and some parts of Cornwall again and again, seeking for faults where they were not to be found, and for anticlinal and synclinal lines where nature had never formed them; and at the end of the summer of 1838 I returned with the conviction that the first section of Devonshire, made by Sir R. I. Murchison and myself conjointly, was essentially right.... On re-examining the fossils in 1838 it turned out that all the species of the Barnstaple group had been wrongly named; and that so far from being Silurian, the only doubt respecting them was, whether they might not be called Carboniferous rather than Devonian. Thus the physical and fossil evidence were brought into harmony[2]."

1855. Æt. 70.

This experience called from Sedgwick a further statement of his views respecting the relation of palæontology to stratigraphy. "I may add," said he, "from this example, that no good classification either of subdivisions or systems, or of subordinate formations, ever can be attempted without a previous determination of the physical groups. The study of fossils, based on ascertained physical groups, may produce,

[1] For Sedgwick's visit to Devon with Murchison in 1836 see Vol. I. p. 458. He returned alone in 1837 (Ibid. p. 489); and in 1838 (Ibid. p. 513).

[2] *Journal* of the Geological Society, Vol. viii. 1852, p. 6.

1855. Æt. 70. and often does produce, some modification of our lines of demarcation; but the evidence of sections must ever remain as the primary basis of geology. When a system has been well made out, and its groups of fossils determined, we may then make use of comparative groups of fossils freely, and with very small risk of mistake. But to begin with fossils, before the physical groups are determined, and through them to establish the nomenclature of a system, would be to invert the whole logic of geology, and could produce nothing but confusion and incongruity of language[1]."

He then describes the structure of other parts of the district, and records a number of new facts, palæontological and stratigraphical, and concludes that, with the exception of the beds south of Gorran Haven, which are of Bala age, all the rocks of the district are Devonian. The supposed Silurian fishes from the rocks between Fowey and Looe turned out to be sponges, and the graptolites found at Black Head south of St Austell were corals of the genus *Cladochonus*[2]. Many further observations on the stratigraphy and physiography of the country, though valuable, are not of general interest.

In 1851 he published one of his explanatory papers[3], which contains much valuable information on the south-eastern margin of the Lake District—the difficult ground where fragments of Cambrian, Silurian, Old Red, Carboniferous, and New Red are caught in the intersections of two great systems of disturbance which he refers to under the names Pennine and Craven Faults. He says that we want some new technical term for lines of disturbance such as those which have resulted in a downward movement on one side of large masses of rock, but not a displacement along one plane

[1] *Journal* of the Geological Society, ut supra, p. 6.

[2] See Sedgwick's letter to the Duke of Argyle, printed above, p. 211.

[3] *On the lower Palæozoic Rocks at the base of the Carboniferons Chain between Ravenstonedale and Ribblesdale* (read 3 December, 1851): Journ. Geol. Soc. (1852), viii. 35—54.

of fracture as miners would understand by the word "fault." He explains, by reference to the above "faults," how, when crossing such a band of broken bent rock, we must allow a

1855. Æt. 70.

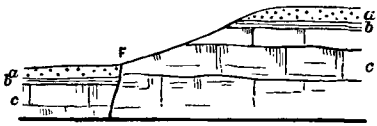


Fig. 1 A

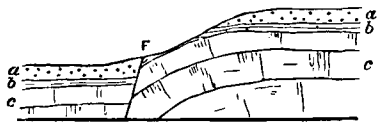


Fig. 2 B

great deal of the depression on one side to a fold in the rocks, so that the beds *a*, *b*, *c*, may be dropped, not by a simple fault, as in fig. 1 (A) but by a fold without faults of any magnitude, as in fig. 2 (B).

He again calls attention to an important observation which he had recorded in a previous paper, that the movements along the Pennine and Craven lines of disturbance were not of one age, and refers to some belonging to the Craven system which could be proved to be older than others which were connected with the Pennine system. In this his observation of the difference of age was of more importance than his reference to different systems.

He has some very suggestive remarks upon the manner of occurrence of the protruded masses of older rock, such as the Coniston Limestone series, seen in so many places along the great lines of disturbance. He does not think that their exposure where we see them is simply the result of great faults, which have brought them up relatively to the newer Carboniferous Rocks; "for we have perfect proof, in numberless sections, that all the older rocks were elevated, contorted, and solidified *before* the existence of the Carboniferous Limestone; and hence I should conclude, that there was an ancient ridge of hills...striking nearly in the actual direction of the Craven fault, and that the Carboniferous Limestone was afterwards deposited partly over, and partly abutting against, this ancient ridge; hence that during a subsequent period of elevation, this ancient ridge may not only have mechanically

1855. Æt. 70. produced the fractures of the Craven fault, but also may have defined its direction[1]." After some further speculations on the palaeo-physiography of the district, he describes it in some detail, giving diagrammatic sections in illustration. He noticed the curious Moughton whetstones with their bright-coloured concentric rings of weathering. "We find on the west side of Moughton Fell," he says, "a kind of whet-slate or flagstone which is divided into rhombohedral solids by two sets of cross-joints. Many of these regular solids have undergone a partial decomposition shown on the planes of fracture by beautiful coloured rings (exactly like those occasionally seen in flint-pebbles) which, commencing irregularly at the outer surfaces, gradually become more symmetrical as they diminish in size, and approach the centres of the several solids. The same kind of decomposition, marked by rings of colour, has affected some large masses of the Skiddaw Slate, and produced coloured lines which might easily be mistaken for the original marks of bedding. And similarly deceptive lines of colour (derived from a decomposition that has commenced from the joints sometimes traversing masses of considerable size) may be seen, though rarely, among the Ireleth Slates, and the Silurian flagstones of Leintwardine[2]." In the next place he describes the curious blocks which are perched on the Mountain Limestone crags at Norber Brow near Settle, and scattered far and wide over the surrounding country. He admits "the intervention of a glacial hypothesis," but the enormous extension of land-ice he had not altogether accepted. "A great current," says he, "might account for the blocks in the lower country, but a great current without the intervention of ice would, I think, very ill explain the position of the blocks on the above-mentioned calcareous ridge[3]." His postscript is an unfortunate attempt at correlation.

[1] Journ. Geol. Soc. viii. 40.
[2] Ibid. p. 52.
[3] Ibid. p. 54.

CHAPTER V.

(1856—1862.)

Death of Margaret Sedgwick. Jenny Lind at Norwich. Image and Hawkins Collections. Lucas Barrett. British Association at Cheltenham. Recollections of Sir J. Malcolm (1856). Dr Livingstone at Cambridge. Last Lecture (1857). Eclipse of the Sun. New Collegiate Statutes. Last Lecture (1858). Death of John Sedgwick. British Association at Aberdeen. Darwin's Origin of Species (1859). Lecture on Geology of Cambridgeshire. Honorary Degree at Oxford (1860). Visit from Mrs Livingstone. The American Sedgwicks. Death of Henslow. British Association at Manchester. Last Lecture. Death of Prince Albert (1861). American War. Visit to the Queen. British Association at Cambridge. Resigns Vice-Mastership (1862).

Sedgwick's *Introduction* to the Catalogue of the British Palæozoic Fossils, noticed at the end of the last chapter, was his last important contribution to geological literature. He had reached the mature age of seventy-one; and though his capacity for the enjoyment of society, of music, and of nature, was undiminished, and he could take as keen an interest as ever in what was going forward in the world and the University, his bodily ailments grew more acute, and allowed him shorter periods in which he could apply himself to serious work. Gradually, therefore, he withdrew from active life. Occasionally, under the influence of strong excitement,

1856. Æt. 71. the old brilliancy would flash out, and he would seem for a while to cast off the load of years, and to be as vigorous as he had been of old. But such intervals were rare, and were nearly always succeeded by a severe attack of illness.

In the period on which we are now entering it will not be necessary to narrate his life as minutely as heretofore; his own letters, with a few explanatory illustrations, will for the most part supply a sufficient record of his thoughts and occupations.

To Miss Kate Malcolm.

CAMBRIDGE, *January 26th*, 1856.

My very dear friend,

I have been so bewildered from sickness and sorrow that I do not know when I last heard from you. Had I known your address I should probably have written to you from Dent. I returned from thence yesterday afternoon; so jaded and out of heart that I could do no more than open and skim the twenty-one letters which awaited my arrival. I will now begin with my reply to you; though I am too late for the post. I can, however, finish it to-morrow, as I am going to write a grave letter which will be no unfit employment for a short portion of Sunday morning. May God in mercy restore your beloved mother to health. I have this winter lost some of my most cherished friends; and to lose her would (I say it honestly) be a great addition to my present domestic sorrow. How could it be otherwise? Her kindness to me was never stinted. The happy, joyous, loving days I spent in her house are amongst the most delightful of my remembrance. This is plain heart's truth; and in my present temper I cannot mock my dearest friend with cold words of mere courtesy. I shall be very anxious to hear from you again.

And now for myself and my own doings. I caught a severe cold on the 5th of December, and that was the last day I dined in the hall of Trinity College. Before that time my lectures had been rather too much for me, and no

wonder, for I now number three score years and ten. My complaint took the type of bronchitis. I was ordered to confine myself to my chambers, and never to enter a room which had not a good fire in it. I was not very ill, but I was in almost perfect solitude. I could have endured all this without murmuring, had not post after post brought me news of my sister's declining health. The consciousness of my utter inability to move made me (perhaps not unnaturally) the more earnestly long to go to her. I feared that she would die before I could pay her the last Christian offices of a brother's love. Towards the end of December I was much better, and by way of trying my lungs I went on the 31st to Norwich, hoping to spend New Year's Day with my nephew and his wife and children, and if possible to go down to Dent before the end of the week. But I caught a fresh cold; and could not start in safety before the 14th. I still hoped to see my beloved sister; for her life had been ebbing away very gently...I halted for the night at Skipton, for my lungs began to be very angry. Next day I went by the train to Hornby on the Lune, whence I intended to post over the mountains to my native valley. 1856. Æt. 71.

Sunday morning. I have risen late—more than three hours after my usual time, which is a little before six. But I was fatigued by yesterday's work, and my cold is still cross and requires humouring. But I must return to my tale of sorrow. At Hornby I found my brother James on the platform. We had come, unconsciously, in the same train. From him I first learnt that my sister was dead. He had heard from Dent the day before, and was on his way from Scarborough to the funeral. We went together up the beautiful valley of the Lune, and over the high wild pass which leads to Dent, almost in silence. The country had no charms for me, as my mind was filled with other images, and shadows of former thoughts. I came up this pass in 1820 in the hopes of seeing my dying mother, but I was too late to look upon her living face. This was my first great domestic

1856. Æt. 71. sorrow. Again, in 1823, I forced my way through this pass on foot, after trying it in vain on horseback. Before I had made my way through the great snowdrifts that crossed the pass I met a countryman and a shepherd who told me that my beloved sister, the companion of my childhood, was dead. I hoped to have received her parting blessing, and to have comforted her; but this happiness was denied me. In 1828 I crossed the same mountains to my father's funeral, but I knew of the old man's death before I started. He was in his 93rd year—happy, cheerful, thankful to his very latest breath. My sister Margaret watched and supported for years the dear old man with the tender care that becomes a Christian daughter; and her own character became exalted and purified by the long task of love which Providence had given her. After 28 years, during which the old parsonage has been spared any great domestic sorrow, old Margaret is now gone; and I am never again to see her living face, and to embrace her, and to hear the calm cheerful Christian welcome from her lips! These were the thoughts that streamed through my mind as we went through the high mountain-pass to the dear valley of my childhood. Perhaps I am wrong in taxing you in this way. But I am writing to you, my dear Kate, as if you were one of my sisters; and you will forgive me for doing so. My friends were well at the parsonage, though looking careworn, but they were all happy in thinking and talking about the passages of Margaret's life since she left her own cottage (about two months before), and came to live with them for the comfort of their constant care. She had tottered to the Sunday school so long as she had strength to go thither; and with deep sorrow, and after much persuasion, she at length had abandoned this task. The school had been founded by herself and her sister in 1814; and has flourished ever since as a blessing to the poor. But by no persuasion could she be at first induced not to go to church; and, week by week, as she returned (leaning between her sister-in-law and niece) she said: 'I think this will be my last service in

the church in which my father used to teach me, and in which I have so long been permitted to hold communion with my Maker.' She looked on death as certainly at hand, and she did not fear it, nay rather she rejoiced in the thought; for her faith was as firm as a rock, and the promises of the Gospel were to her (I verily believe) as substantial realities as if she had, in beatific vision, seen heaven and her Saviour's face within it. Yet she was, meanwhile, the humblest of the humble, and overflowing with affection. 'I am ready to die, when it is God's will to call me away,' she said two days before her death; 'but I should like to live a little longer because you are so sorry to part with me.' She had not much imagination, and she never used any rapturous forms of address to God. All about her was calm and sincere, faithful and true; and her devotions were tempered with the deepest humility. She was a woman of very great personal courage, I almost doubt whether she ever knew what bodily fear was, in the common sense in which womanly fear is understood. Yet in woman, as in man, courage is compatible with tender-heartedness. Margaret, from her calm address, might, by a stranger, have been thought cold-hearted. But give her anything to do, and let a case of duty or of suffering be before her—then was no hand more ready, and no heart more warm. She was loved by all her servants as if she had been their mother; yet her household was managed in the most rigid (some might even think penurious) economy. She grudged everything to herself, only that she might give away to others who were the objects of her love and Christian bounty. In this way, out of little more than £200 a year, it is wonderful how much good she was able to do in the parish, and among those who had any claim on her bounty. A few days after her coming to the parsonage, she said she would take her last solitary walk in the village. Isabella wanted to support her. 'No,' she said, 'I must this day go by myself.' And away she tottered from house to house to take leave of her dear old humble friends.

1856. Æt. 71.

1856. Æt. 71. She had doubled her usual Christmas gifts, and she did not wish even Isabella to know it. Perhaps also she had parting words to say that were best said to the solitary ears into which they were gently poured. After several hours spent in this way, she came back greatly exhausted, yet almost elevated in spirits that she had been so well held up in this sacred and trying task.

Christmas Day had always been a day of Christian joy in the old parsonage; and of late years also in my sister's cottage, for after she became a widow she lived with my brother in a neighbouring cottage, which they had partly built. As she was on Christmas Day so much reduced in strength it was arranged that all the members of the two houses should assemble at the parsonage in the evening and partake of the feast of love together. But on the morning of Christmas Day, at her earnest wish, this plan was changed. The two houses were to go to church as they had always done, and a strong servant who had borne my old father in her arms from his sitting-room to his bed, for many months before his death, was still living in the parish and as strong as ever. She had come down from her own house (she is now the mother of a large family) to receive the sacrament, and she undertook to bear dear old Margaret, like a child, to the altar-rails when the sermon was about to end. All this was done, to my sister's great joy; and she did receive the sacrament once again in the church of her baptism, and among the people whom she had so long loved. After her morning devotions, and reading in the Bible for about an hour, she would join the conversation of the family with cheerfulness, and even liveliness. Gradually, however, her strength so failed that she took no interest in anything but what had reference to the duties of a dying Christian. She became too weak to read, though she was able to sit on the sofa and converse. A few days before her death she asked them to read to her the 17th chapter of St John's Gospel. She said it contained just what her soul desired. She never afterwards asked for any

other passage of the Bible. That chapter was read to her, at her own wish, again and again. The day before her death (the 12th) she said, while on the sofa, 'I now understand an expression in the Bible that did seem strange to me; it tells me of a weakness so great that a grasshopper would be a burden to the body. Such is my case now.' Not long afterwards she asked for the 'commendatory prayer' in *The Visitation of the Sick*. It was read. She then was borne to bed—never to rise from it again by her own strength. Very early on Sunday morning (2 a.m. on the 13th) Isabella perceived a change in her aunt's breathing, and called her mother up. Margaret was, even then, calm, sensible, humble, and most thankful. At length, as life was at its last breath, they heard their dying sister distinctly articulate these words: 'O Father, receive my soul for Jesus' sake.' And then she fell asleep as quietly as does a little child on its mother's breast. On the 18th her four brothers, her sister-in-law and niece, her two nephews, and the servants of the two houses, followed her remains to the grave. We were all of us true mourners. 1856. Æt. 71.

I came back on Friday afternoon to my old College rooms. They do seem very solitary. My thoughts have been running in one channel; but I hope I am recovering my health. I did intend to go to Hall to-day but I have not spirits for it; and my lungs are still irritable. This day week, my brother James preached at Dent in the morning. I kept by the fireside to save my voice for the afternoon, when I gave the congregation a comment on the 17th chapter of St John's Gospel—of course telling them (before I ended) that I had fixed on that chapter because my sister's soul had rested in it. It is delightful to preach to country people, but in this instance the task was not an easy one for me. There! I must end. I have quite emptied my mind of its thoughts. My best love to Lady Malcolm and your sister.

Ever your affectionate friend,

A. SEDGWICK.

1856. Æt. 71. *To Dean Peacock.*

CAMBRIDGE, *January 26th*, 1856.

"...I have no academic news. Canvassing is going on, but I am not in health and spirits to join in it. Of course I shall give my vote for Denman. I am happy that my vote will go with my affections, for I know Denman and like him. Walpole I never exchanged a word with...."[1]

NORWICH, *February 7th*, 1856.

My dear Fan,

I am now off the sick list. I wished to see my house and its inmates, especially as I am making some necessary repairs, and Jenny Lind was coming. So, by way of killing two or three birds with one stone, I came over on Monday last, and on Tuesday I went to hear *The Messiah*. I have heard *The Messiah* ten times better performed before—with *one grand exception*: viz. the part sung by the sweetest of all singers. I never heard her before in sacred music. She was simple, and devotional in her manner of treating the sacred songs, and avoided all ornament. I never heard the songs sung more plainly, and never so touchingly; and in those passages which called forth the powers of her voice, and the expression of her feelings, she became absolutely sublime. She leaves us on Friday—to-morrow morning...We dine at four, and at half-past seven, I hope to be on my way to St Andrew's Hall along with dear Mary. To-morrow, early, Jenny Lind Goldschmidt calls on me; and I am to go with her to the late Bishop's grave, and to show her his monumental window. To avoid the public I am to conduct her through the back door of my house, and through the cloisters, for she wishes to go as privately as possible...

Friday Morning. We arrived just as the orchestra was in the agony of tuning. The Hall did look splendid, and was

[1] George Denman, M.A. of Trinity College, formerly Fellow, now Mr Justice Denman; and Spencer Horatio Walpole, M.A. of the same College, contested the seat for the University vacated by the death of Mr Goulburn. Mr Denman after a contest of three days (February 7—9), withdrew.

filled from the floor to the roof. The music admirable throughout; but, as usual, the concertos were too long for uninstructed ears like mine. I always long to dock them a bit. Sainton fiddled divinely, but he became too long; and I began to ask myself, what is the ear-tickling noise? 'tis nothing but a scrape, made by rubbing a horse's tail over the twisted bowels of a sheep. Few of our pleasures will bear analysing; but they are pleasures still, and a man is an ass who does not enjoy them so far as they are under the guidance of truth, and reason, and prudence, and all these other very old-fashioned things which stuff paper. I *did* enjoy the music; only the wire-drawn concertos give a man time to think impertinently. Jenny was above herself. She was like a lark, and she was like an angel, and she was like nobody that ever lived before her since the days of Tubal Cain. In my mind and heart *On mighty pens* (Haydn's *Creation*) was the song of the evening, but she was wonderful in *Ah mio fidele* of Bellini. Then she sang *John Anderson my Jo*, plainly as possible; but oh! how touchingly! She ended with one of her wild, Swedish, mountain-echo songs; and just as the echo died away we left our seat—close to the passage out—and walked home. 1856. Æt. 71.

At 9.30 Jenny Lind Goldschmidt came in a fly with her husband. I just introduced them to Mary and the young fry; and then off to the cloister-door. They were quite affected by the grandeur of the cloister. I then took them to the Bishop's tomb. They read the beautiful inscription again and again. Then the window[1] was discussed. Then round the Cathedral; and, as we were coming into the cloister, Jenny ran back and waited a minute to have a last look at the tomb. Then again through my kitchen to the fly, and away.

Ever dearest Fan, your affectionate uncle,

A. SEDGWICK.

[1] Bishop Stanley, says his *Memoir* (p. 106), "had expressed more than once his wish that if any memorial were erected of him, it should be the restoration of the great west window." This wish was carried out after his death.

1856. Æt. 71. *To Miss F. Hicks.*

CAMBRIDGE, *February 28th*, 1856.

Dearest Fanny,

...I sent you a Cambridge Paper on Saturday. Show my letter to any Cambridge man who is flush of money and loves geology. The smallest contributions will be thankfully received, and will put the donor among the recorded benefactors and dutiful sons of our *Alma Mater*. What an easy way of reaping lasting honour!... By beat of drum I have got more than £200, and now tell me, my darling, how I am to get the other £300! Do this and I will doff my respirator, and kiss your shoe. No! I will do no such dirty service. I will kiss your lips with a love-smack as loud as a pistol.

A great big collection of stone reptiles came to my Museum the day before yesterday. They did not crawl like modern reptiles, but came on wheels, which by the way were well greased by the Master of Trinity, who paid £100 for the oiling and greasing. This was well done, was it not? They are worth £500, and are jolly fellows to look at, and quiet in their habits. As for the Image collection of the printed letter, it is also safe in my keeping. I wish it were well paid for. Excepting the Master of Trinity (who has come down with £110 for reptiles and images) the Heads have done nothing. My letters do not move them—they have no bowels! This is delicate news for a young lady is it not? But, you know, I have often laughed at you for being over abundant in the use of the word *nice*; and Dean Swift told me, 'that a nice man was a man of nasty ideas;' and perhaps the saw may be said of woman. That is at any rate a nice point for you...

Ever your affectionate uncle,

A. SEDGWICK.

The additions to the Woodwardian Museum alluded to in the last letter were of great importance. The reptiles—or, in the words of the Grace thanking the donor for them,

"the very valuable and unique collection of Saurian Fossil remains," were presented by Mr Thomas Hawkins[1], and Dr Whewell gave £100 to provide cases for their display. The Image collection had cost £250, but there were contingent expenses for carriage, cabinets, etc. which Sedgwick at first estimated at £100 more. The Woodwardian Fund and the University Chest were alike unable to provide this sum; and Sedgwick therefore issued a lithographed letter (dated 10 January, 1856) in which he asks for the help of "the members of the Senate and the graduates who are interested in the scientific honour of Cambridge, in this (probably my last) work undertaken in the service of the University." When the collection came, however, he found that its proper exhibition would entail a much more extensive rearrangement of the Museum than had at first been contemplated. It would be necessary to provide cabinets for the collection of recent shells, as well as for other recent forms, and to find some place in which they could be displayed other than the Woodwardian Museum, which even then was thought to be overcrowded. These changes could not be carried into effect for less than £500. A second appeal therefore to the liberality of the Senate became necessary; and Sedgwick wrote a letter to the Editor of *The Cambridge Chronicle* (20 February) in which the original circular is reprinted, some further particulars respecting the Image collection are given, and an appeal is made for the larger sum. 1856. Æt. 71.

Mr Image[2] took his first degree in 1795; and during the long period in which he has been rector of Whepstead near Bury St Edmunds, he has been an indefatigable collector of fossils and of some other objects of Natural Science. His Museum was not

[1] Mr Hawkins published (among other works): *Memoirs of Ichthyosauri and Plesiosauri, extinct monsters of the ancient earth*; with twenty-eight plates, copied from specimens in the author's collection of fossil organic remains. Fol. Lond. 1834: and, *The Book of the Great Sea Dragons* [etc.] with thirty plates copied from skeletons in the author's collection of fossil organic remains. Fol. Lond. 1840.

[2] Thomas Image, of Corpus Christi College, B.A. 1795.

1856. Æt. 71. stocked without very great personal cost. For many years he employed numerous collectors in the various quarries near Cambridge, Newmarket, and Bury St Edmunds, and among nearly all the cretaceous deposits of his neighbourhood; and collectors were employed by him, in like manner, among the extensive tertiary deposits near the coasts of Suffolk and Norfolk.

In this way the Museum at Whepstead gradually became almost unrivalled as an illustration of the geology of the whole country which stretches from Cambridge to the eastern coasts of the neighbouring counties. It also contained a well-selected and valuable series of fossils from the older Secondary and Palæozoic formations of England.

A mere list of species, however complete, would convey a very inadequate conception of the value of the series. For Mr Image had, by long habit, acquired consummate skill in separating delicate organic remains from the rude materials in which they are often imbedded. His collection not only represents, therefore, what was brought together at a cost *very far* above the sum for which it is now offered to the University; but it also represents what is more precious—the results of a scientific and happy labour bestowed upon this pursuit during the many leisure hours of a long life.

Sedgwick was extraordinarily successful in his efforts to raise money. Before the end of April the subscriptions amounted to nearly £725, including £50 from the Prince Consort, and he could announce that the list was closed. By the help of this fund he was enabled not merely to pay for the specimens, but to fit up a room to the south of the old gateway of King's College, into which all the collections illustrative of recent zoology were gradually transferred.

At this time Sedgwick's assistant in the Woodwardian Museum was Mr Lucas Barrett, a young naturalist who had come to him, almost without credentials, soon after McCoy's departure for Australia. At that time, says Sedgwick, "he had the look of a sprightly, intelligent boy; and I was so captivated by his knowledge, skill, and youthful zeal, that without hesitation and with much joy, I secured his services, not as an academic officer (for no office was vacant), but as my friend, assistant, and fellow-workman in the Museum. Right manfully, and with much skill, he went on with the arrangement of our cabinets; refusing no labour, but delighting in

it. I had an almost paternal regard for Mr Barrett, and he gained the entire good-will and confidence of every man who knew him personally during the years he resided in Cambridge[1]." It was through Barrett's exertions that the rearrangement of the Woodwardian Museum, consequent on the arrival of such a number of new specimens, was carried out; and we well remember his affection for Sedgwick, and the heartiness with which he worked for him. But it was not to be expected that a young man of such promise, dependent upon his own exertions, would stay long in Cambridge. In March 1860 he was placed at the head of the Geological Survey of the West Indies. He entered upon his new duties with characteristic energy, and was making satisfactory progress with his work, when, in December, 1862, when he had just completed his twenty-fifth year, he was drowned while trying to examine a coral-reef by help of a diving-apparatus—"to the inexpressible grief of those who knew him best, and to the deep sorrow of every one who had seen his bright face, or had heard of the heart, and hope, and skill, with which he was carrying on the survey of which he was the head[2]." 1856. Æt. 71.

By way of contrast with Sedgwick's serious work, or his grave reflections on domestic sorrows, we cannot resist quoting the following passage. His friendship with the family of the bride has been often alluded to. "Yesterday," he writes to his niece (27 March), "I was at Miss Hopkins' wedding, and all went off quite charmingly. I had, as usual, to make a speech at the breakfast. In the evening they had a dinner and a dance. I dined with them; but about 9.30, when they began to dance, I came away. I ought to have told you that I threw the first shoe when the bride and bridegroom started; and I hit the driver over the head,

[1] Letter to the Editor of *The Cambridge Chronicle*, dated 19 January, 1863. It was written soon after he had received the news of Barrett's death.

[2] Ibid. The value of Barrett's work is specially recognized in the *Report* of the Woodwardian Inspectors for 1857.

1856. Æt. 71. which was said to be good luck—at least a good sign of it."

Sedgwick spent May and June in Residence at Norwich, leading the life that pleased him best—a quiet routine of duties, enlivened by the society of relations whom he loved. Their children—especially the eldest—had now taken possession of him. "Every morning," we are told, "the child comes with her merry round face, and asks me to wheel her to the Dean's garden that we may feed his chickens, and I do not easily find in my heart to refuse her. I love children, and I love young people. There is a charm about them which is cheering to a ricketty old fellow like myself[1]." The Residence ended, he went with the whole party to Lowestoft, where he presided, with much interest, over their gambols on the beach, for which he provided spades, wheelbarrows, and other implements.

These diversions were interrupted by the meeting of the British Association at Cheltenham, where a paper by Professor Rogers (of Boston U. S.) *On the correlation of the North American and British Palæozoic Strata* led to a warm discussion between Murchison and Sedgwick[2]. The latter tells Sir Charles Lyell: "Murchison's nomenclature was geographically absurd and wrong; and it was geologically wrong because based on false sections. It was not merely an incongruous, but it was a false, nomenclature. It was his policy never to acknowledge a mistake, and on the one matter of fact whether *he* had made a great mistake, or had *adopted it from me*, he never spoke out till I *wrung* an answer from him at the last Cheltenham meeting of the British Association. He then, at length, but far too late to save his credit as a fair-dealing man, did acknowledge that the blunder, the actual inversion of the order of super-position from Denbighshire to Caermarthenshire, was his own, and not in any way borrowed from me[3]."

[1] To Miss Grace Milne Holme, 23 June, 1856.

[2] *The Athenæum*, 1856, p. 1060.

[3] To Sir C. Lyell, 28 April, 1857.

In September Sedgwick spent a few weeks in Lake Land, but he came in for a spell of bad weather. "I had a miserable bout of geology in the Lake Country," he writes, "nothing but rain and disappointment, and alas! also solitude, for nearly all my old Cumbrian friends are dead. Oh! the happy days I have spent in that lovely country! Wordsworth, Southey, Coleridge, Professor Wilson, and other kindred spirits, now all gone. One old man (Jonathan Otley) with whom I had often traversed the mountains in bygone years was still living at Keswick. But what a ruin! he was paralytic, and inarticulate, and bed-ridden. And no wonder, for he was more than ninety. But the old honest rough-faced hills did look cheeringly, whenever (and that was very seldom) they condescended to take off their ugly damp night-caps." 1856. Æt. 71.

Otley's biographer gives a touching account of this interview[1]. The old geologist was helpless and speechless from paralysis, but quite sensible, and knew Sedgwick, who stood by his bedside, silent and deeply moved. For a while he held the sick man's hand, and then, bursting into tears, cried out, as he knelt down, "Jonathan, I'll pray with you."

To Miss Fanny Hicks.

CAMBRIDGE, *November 19th*, 1856.

"...I began my lectures the last week in October, and I hope to lecture four days a week till Friday the 12th of December. I have generally an hour's preparation for each lecture in mounting sections and wonderful pictures, etc. etc., an hour for the lecture, and nearly a third hour in talk and explanation to the lads. The work fatigues me, but I like it, and, so far, I have stood it well, considering that I am now giving my 38th course, and that I am fast wearing out my 72nd year. But the University have put me on the new

[1] *Jonathan Otley, the Geologist and Guide.* By J. Clifton Ward. Transactions of the Cumberland Association for the Advancement of Literature and Science, Part II. 1876--77, p. 168. Otley died 5 December, 1856.

1856. Æt. 71. Council, which meets three times a week, and employs three full hours in each incubation. I say incubation (though I generally hate long words), because we all sit as close as if we were hatching chickens, and I do hope we shall not hatch any mischief, but there is danger of it. This work is by no means after my liking. I have also, this term, to attend all the congregations in the Senate House—a duty I by no means like. I avoid all dinner-parties; but I have generally a tea and coffee party at my own rooms after Sunday evening chapel.

I made however one exception to my rule. Last Monday was the anniversary of the Cambridge Philosophical Society, of which I was one of the founders, and I attended the dinner which is given to celebrate the anniversary. Let me try to describe that day's work, though it is not a fair sample of my daily life. Rose as usual. Assisted the College Librarian in putting my books in order in two new book-cases &c. &c. Swallowed a cup of tea, and some brown bread, at 9.30. Off to my museum with sundry sections, and illustrations for a double lecture (for it was my field-day). Lectured to my usual class at 11.0. Broke off at 11.40, and then (having all ready) started in a fly to the clay-pits at Barnwell, where my young friends (some on foot and a few on horseback) soon joined me. A short lecture from the top of a big heap of (so-called) coprolites. Then a fly to Cherry Hinton, and another lecture in the chalk-pits. A drive to the top of the giant Gog-Magog, and some wonderful discoveries. Lastly, a drive home after a red sunset. Dog-tired, but mended by a basin of broth and a foot-bath. Dressed, and then laid down for an hour, and slumbered, while dreaming of monsters, and hydras, and chimæras dire. Rose at 6.30 p.m., and went to mine host of *The Red Lion* to join the dinner-party of philosophers. Took with me a young friend[1] who spent last summer in Baffin's Bay, in a boat which was rowed (I cannot well say manned) by eight

[1] Sedgwick's assistant, Mr Lucas Barrett.

Esquimaux lasses. Their pictures excited a warm interest, and made us wonder how my friend could ever tear himself away from such arctic Graces. After dinner many speeches. I made the longest, I don't say the best, for that would be boasting, and might be a fib you know. But I made them laugh, and that is good for the liver, and therefore helps digestion. Came back at 11 p.m. and to bed, after a very long and very hard day's work. So you see your old uncle has still some life left in him. While his heart beats he will love you." 1856. Æt. 71.

The following recollections of Sir John Malcolm were written, at his daughter's request, in the hope that they might be of use to his biographer[1]:

To Miss Kate Malcolm.

CAMBRIDGE, *November 1st*, 1856.

"...I first saw your father, at least I first conversed with him, at Julius Hare's rooms. He had come on a short visit to Cambridge with William Schlegel, who that evening was natural, and unaffected—being carried out of himself by Sir John's joyous and robust humour, his instructive oriental anecdotes, his frank, open-hearted, outpourings of himself. I look back on that evening (and we sat to a very late hour) with a delight and admiration which will last so long as I have heart and memory. That your father was a good linguist, an excellent diplomatist, a man of great administrative skill among the oriental nations whom he was called upon to govern or to influence, that he was not only a good soldier but a humane soldier—doing more than once by persuasion and personal influence what he could perhaps more easily have done by the sword — these are facts of history which must be well-known to his biographer. But in domestic life and manners your dear father shone *very brightly*. How fond of the land of his birth; how patriotic as an Englishman; how loving in his own family, like a

[1] See above, p. 301.

1856. Æt. 71. happy child among his happy children; how kind and encouraging to persons younger than himself; how true to a genial nature; how wise and truth-loving in his dealings with those who had the honour and great privilege of his personal friendship! Such remembrances come like a flood upon me when I think of past days at Hyde Hall. You were then a very charming and happy child, my dear Kate, and you once rode upon my back. How should you like that seat now?..."

Kaye's *Life of Sir John Malcolm* came into Sedgwick's hands soon afterwards. He read it with avidity, hardly giving himself rest until he had finished it. On the whole he was satisfied. "The style is not always lively," he wrote, "but the facts would bear up any style, and (very properly I think) Sir John often tells his own tale in his own words. This breaks the continuity of the narrative, and makes it a mosaic, rather than a fine painting—but the mosaic will last[1]." In the following April *The Edinburgh Review* published a criticism of the work in which Sir John's character and administration were handled in a way which gave his relatives much annoyance[2]. Sedgwick was almost as indignant as they were. "I do think the reviewer very unjust," he wrote, "abominably unfair. He allows the great moral and intellectual qualities of your late father, he cannot deny his great and most honourable labours in consolidating the power of our Empire in India; but it does appear strange to me that he has no [generous] word to say respecting his struggles for what he thought the interest and honour of the India Board. There is wisdom and self-devotion in that last dying effort which ought to have called forth a word of exalted praise. In one respect your father was very unfortunate. He entered the House of Commons far too late. You cannot, they say, transplant a full-grown oak tree; and the squabbles and battles of parties were not a good intellectual and moral soil for one

[1] To Miss Kate Malcolm, 31 December, 1856.
[2] *The Edinburgh Review*, Vol. cv. pp. 391—419.

who had been the conqueror, the legislator, and the father, of the best regions in Central India. Nor was this all. He entered Parliament at a time when he was compelled to fight a losing game. No power on earth could then stop the Reform Bill....Your father was a Tory—so was the Iron Duke—so was Sir Robert Peel then, at least in name—but this is the very cause why the reviewer nibbles at Sir John's reputation, and contrasts his failure (in which he bore only a share with all who were then called staunch Tories) with Lord Metcalfe's success in Jamaica, Canada, &c. The cases are not parallel. Had your father failed in Canada and Lord Metcalfe succeeded, then the comparison would have been fair; but to contrast success in Canada with failure in stopping reform in the House of Commons is arrant nonsense.... 1856. Æt. 71.

Never let your mind be troubled by party writings. Your father will stand out in history as a great and good man. Take him all in all, who is his match among the public servants of India within this century? The reviewer carps at the redundancy of his language, and contrasts his voluminous letters &c. with the finish of the Marquis Wellesley's despatches. But is this fair? The Marquis' despatches and official papers are the published and finished compositions of one of the first scholars of his day—of one trained from his youth upwards in all the refinements of classical education. How different from your father's rough training—turned out in India almost as a child—battling his way among oriental customs and languages—a man of deeds to make his name live so long as history is held in honour. The wonder is that he had time to think of writing history...[1]."

In November of this year Lord Lansdowne offered to present to Trinity College a memorial statue, to be placed in the antechapel, as a pendant to the statue of Bacon. He suggested the names of several men of letters, which were finally reduced to two, Bentley and Barrow. Macaulay

[1] To Miss Kate Malcolm, 11 May, 1857.

1856. supported the claims of the former; Sedgwick, those of the
Æt. 71. latter, and, at Whewell's suggestion, sent his views in writing to Lord Lansdowne.

TRINITY COLLEGE, CAMBRIDGE,
December 18th, 1856.

"...Bentley was the prince of critics; but Barrow was greater than a critic. He was a great inventive mathematician, and a forerunner in clearing the way for the vast discoveries of Newton. Were all the other works of Barrow destroyed and utterly forgotten, he would still, as an inventive mathematician, have an honourable niche among those who have adorned the intellectual history of their country. This is a point Macaulay had not touched upon. Barrow was great as a moralist and divine, and, at the same time, a man of gigantic learning. Under these points of view, Bentley was, in some respects, far greater than Barrow. Not greater as a moralist and divine; not, I think, greater as a man of learning; but certainly far greater as a critic; and his works are, I am told, far better known among the classical writers of the continent, than are the works of Barrow. This fact should not be overlooked; for those lights are the brightest which shine the farthest. On the other hand, what vast learning, what logical skill in the use of it, what grand old-fashioned eloquence, what earnestness in the cause of moral truth, do we find in the works of Barrow! It may be said, indeed, that he sometimes so refines, as to make distinctions almost without differences—that his matter is over-loaded—that he has no mercy on his readers—and that he sometimes wearies them by apparent repetitions. But, while we are taking measure of the man, we must bear in mind that he died young, and that nearly all his works are printed from manuscripts not specially prepared for the press, and found after his death. Had he lived to publish his own works, these peculiarities might have been less prominent than they are now. They mark, however, the mind of the man; and they also mark the old-fashioned training by which he became

what he was. We do not find these faults in the rasping logic of Bentley, whether employed upon a question of verbal criticism, or in giving verbal criticism its noblest office, in unmasking impostures or in vindicating truth. His works will live so long as classical learning and almost supernatural skill are held in honour; and Barrow's works will live so long as majestic eloquence, and learning, and moral truth, and Christian hopes, are dear to the hearts of men. 1856. Æt. 71.

I have often thought that the good sense and simplicity of the Newtonian Philosophy not only produced a great revolution in physical science, but also helped to bring about a change in the literary taste and critical judgment of those who lived after its introduction and acceptance. Bentley lived, at any rate, after Newton's works had begun to tell upon the minds of Cambridge men, and his mind seems to have had a training far different from that of Barrow. In comparing the two men this fact, is not, I think, to be left quite out of the estimate. But I have no right to dwell upon this point of speculation, and I have perhaps made a mistake in obtruding it upon you.

There are other, and, some may think, insignificant points of comparison, in which Barrow rises far above Bentley. Barrow was a man of simplicity, piety, and sincerity, always earnest and truth-loving; and he was a great benefactor to the College. He is annually named with honour on our Commemoration Day on account of the active and munificent part he took in forwarding the erection of our beautiful Library. There is no corresponding commemoration of Bentley; and he was our Master during a very long period of broil and litigation, produced, in part at least, by his own acts of tyranny and dishonesty. In such a state of things, not only was the temper of the Society greatly damaged, but its reputation in the world inevitably suffered, so that under his administration the College gradually sank below its former level. In estimating his grade on a merely intellectual scale, it might be well to shut out from sight such facts

1856. Æt. 71. as these. In comparing him with Barrow, and in reference to a monument of honour in our Chapel, they ought not, I think, to be forgotten altogether. Lastly, there is another point (of small importance indeed, and but as dust in the balance) in which Barrow has the advantage over Bentley. Barrow was a regularly bred Trinity College man. Bentley was bred at St. John's, and in mature life was placed over our Society by the Crown.

Pray, my Lord, forgive me for having given an opinion at so much length, and about which I ought to be diffident, as it is opposed to that of Macaulay, who is as stout-hearted a Trinity man as I am, and is so incomparably my superior in his writings and his range of literary knowledge. Some of my friends have mentioned Dryden as third on the list of our great names; and it did seem to me (though I have too little of the poetic element in my nature to be a good judge on such a question) that Macaulay rather underrated Dryden. But I agree with him in thinking that we should be wrong in placing him before Barrow or Bentley...."

Sedgwick's view was supported by the Master and others; and no doubt exercised considerable influence on Lord Lansdowne's decision. With this exception the Michaelmas Term passed away without any noteworthy incident. "By very great care I have kept my voice," Sedgwick wrote when it was over; "and I finished my autumnal course yesterday without having once broken down, which was far more than I could say of any course I had given during the three preceding years[1]." Advancing years had taught him the necessity for taking care of himself. Here is a picture of his winter garb at Norwich.

To Miss Kate Malcolm.

CAMBRIDGE, *March 11th*, 1857.

"...Now, if you are a lady of good taste (as I am sure you are), you may even improve by the contemplation of my

[1] To Miss Gerard, 12 December, 1856.

outer adornments. 1st. A pair of black shaggy snow-boots over my stout shoes. Nothing like building on a good foundation. 2nd. A great seal-skin coat over my back, which made me feel as warm as a Persian cat on a hearth-rug. Its glossy black surface quite enchanted the ladies of the Close—so that they could hardly keep their hands off me. 3rd. A respirator over my mouth; and the dangling bands under it were in beautiful relief, and looked of true antique orthodoxy. 4th. A black velvet cap over my head—looking, some thought, a little puritanical. Others thought it very becoming to my pericranium, and that it set off the roses and lilies which were fighting a doubtful battle on my youthful cheek....5th. Over all was thrown a surplice, hood, and scarf, which stood out above the seal-skin fur like one of your wonderful crinoline petticoats, and gave me a look of dignified and self-pleased dilatation as I walked behind my silver poker to the Residentiary seat. Bating the respirator, such was the costume in which I sat, and in which I preached...." 1857. Æt. 72.

These unwonted precautions were only partially successful. Early in March he paid a visit to some friends at Fakenham, and was taken to see the ruins of Walsingham Priory. "I drank at the wishing-well of famous memory," he tells us, 'and I wished my gout away; but my prayers were not heard; and the night after they were uttered came a second tormentor in the shape of an inflammatory cold[1]." Still he stuck manfully to his duties; attended the meetings of the Council of the Senate; superintended Barrett's work in the Museum; and on Easter Day preached in the College Chapel. After this, however, the cold returned, he became "as melancholy as Niobe's great-grandfather, and as thin as an old thread-paper," and, almost for the first time, was unable to attend the Woodwardian audit. He was again a prisoner, and the middle of May came before he could

[1] To Sir J. F. W. Herschel, 23 May, 1857.

1857. Æt. 72. exclaim exultingly: "The weather-cock has turned tail; the wind is south. I have had such a sweet sleep as I have not had for many years. I fell asleep about 11.30 p.m., and I awoke as the clock struck 7 a.m. And the zephyrs are blowing, and the grass is growing, and the birds are singing, and the flies are buzzing. All nature is alive, and your old uncle is come to life again[1]."

This improvement, however, was but temporary. Some unusually tedious Chapter-work at Norwich brought on the old alarming attacks of giddiness, and June came before he was fit to travel to Blackpool, where his relations were then residing. Then he rapidly got well and strong; and was even tempted to go so far afield as Manchester. But the imprudence was not justified by success. "My head was perplexed", he writes, "by the interminable multitude of pictures and other works of art; and would not endure the posture of gazing, hour after hour. If I had leisure I should like to spend a month at Manchester, and devote four hours every day to a study of the noble works of art[2]." So he wisely betook himself to Dent for a fortnight, and thence to the Lakes, "to sweep up a little geological dust that had not been swept up before[3]."

To the Duke of Argyll.

DENT, *October 20th*, 1857.

My dear Lord Duke,

I left my duties at Norwich on the first day of this month, and after a halt of two days at Cambridge, came down to the old parsonage of Dent...

You must not think, from some words I scattered, that our Cathedral congregations are *always* composed of a few tottering old women. I preached every Sunday during my three months Residence of the past year to a very large congregation. And it went on increasing, for every corner

[1] To Miss F. Hicks, 12 May, 1857.
[2] To Miss Kate Malcolm, 1 July, 1857.
[3] To the same, 7 September, 1857.

of our large Cathedral choir was at length filled, and I had each Sunday of the summer months a congregation of about 1,200 persons sitting under me... 1857. Æt. 72.

I passed the fast-day at Dent, and was glad to find my dear, honest, humble, countrymen in a state of strong feeling at the dismal news from India. My brother addressed them in the morning, and I in the afternoon; and we found in the dish for the Indian Relief Fund between six and seven pounds, a considerable part of it in copper-money given by very poor people. I was truly rejoiced to think that many an honest prayer was that day sent up to God by warm and faithful hearts in behalf of our poor suffering fellow-Christians in India. I have no fear for the ultimate result. Good will, I trust, come out of evil—a better, wiser, and more Christian rule over our millions of fellow-creatures and fellow-subjects in India. And already, how well have the true, loyal, brave, Christian hearts of many men and many women shone out in this hour of terrible trial and suffering! Away, for ages to come, with a pettifogging mercantile narrow policy which led rulers (with no more feeling for Christian truth than was lodged in the threads of their purses) to turn out an honest convert to the religion of Christ from the ranks of the Sepoy regiments—which made them pet and fondle the wretched idolaters, and to discourage Christianity by their policy and by their example. Let the Indian nations feel that we rule them, and mean to rule them, with a high hand. Let them know that we are Christians, and will, with all our moral might, maintain the faith we have in our hearts accepted. Let them know, by our acts, that we love them and seek their good—spiritual and temporal—and then truth must triumph over falsehood in the end, and in God's own time. But I beg your Grace's pardon for running on at this rate...

I am, my dear Lord Duke,

Very truly and gratefully yours,

A. SEDGWICK.

1857. Æt. 72. *To Miss Isabella Herschel.*

TRINITY COLLEGE, *October 29th*, 1857.

"...On returning at the end of last week I found the College in turmoil—the Fellows hammering at a new constitution—all the juniors mad for the repeal of the celibacy clause—all dreaming of loves, olive-branches, nursery-maids, toys, and trundling hoops etc. to decorate our old cloisters. Poor green-horns! they little think what troubles they are trying to bring upon themselves!...

I am a little sorrowful at the thought that I am going to give my final course of lectures. 'Tis high time to strike after forty years of pretty hard work, is it not?..."

Early in December Dr Livingstone came to Cambridge, and lectured in the Senate House and Town Hall. Sedgwick had read his travels, and, besides, had made his personal acquaintance in the previous September at Kendal—and from what he saw of him then, and from the interest aroused by what he had accomplished in Africa, was ready to welcome him heartily as a friend when he came to Cambridge. Those present in the Senate House on Friday, 4 December 1857, will not readily forget the striking scene. The building was crowded in every part; and Livingstone—already well known as an explorer and a missionary in South Africa—received an enthusiastic welcome from both old and young. "He stood before us," said Sedgwick, "a plain, single-minded, cheerful man—somewhat attenuated by years of toil, and with a face tinged by the sun of Africa: and he addressed us in unadorned and simple words[1]." As the lecture proceeded—a plain practical statement of what he had done and what he hoped to do, set forth without self-glorification, and relieved with many a sly touch of humour—his hearers felt that they were in the presence of a leader among

[1] *Dr Livingstone's Cambridge Lectures*, together with a prefatory letter by the Rev. Professor Sedgwick. 8vo. Cambridge, 1858, *Letter*, p. iv.

men; and when he concluded with the fervent appeal: 1857.
"Africa is now open! do not let it be shut again! I go back Æt. 72.
to try to make an open path for commerce and Christianity; do you carry out the work which I have begun; I leave it with you!" there was silence for a few seconds, and then applause which those who had known Cambridge for more than fifty years declared to be the heartiest they had ever heard within those walls. Then Sedgwick rose. His frame was slightly bowed, and he wore a black velvet skull-cap, with many coats and wrappers; but his eye was not dim, nor his natural force abated. He seemed to be the impersonation of an ancient University, welcoming an honoured guest. He advanced towards the great map of Africa on which Livingstone had pointed out his route, and gazed at it wistfully. "I dare not speak of its geology," he said, in a voice that trembled a little, not from weakness but from emotion; and then, in his most earnest manner—with all the vigour and heartiness of his younger days—he entreated his hearers not merely to welcome and thank Livingstone for what he had said, but to carry forward the noble work which he had so auspiciously begun. His words were few, but well-chosen, and when he sat down the applause told that they had gone straight to the hearts of his hearers. The cheers were as hearty as those which had greeted Livingstone.

On the next evening Livingstone dined in the Hall of Trinity College as Sedgwick's guest. It was Audit Day, and a large party was present. In the Combination Room Sedgwick proposed Livingstone's health. It was then his intention to return to Africa without delay, so that the speech partook of the character of a farewell. With Sedgwick's life-long hatred of slavery—his interest in all efforts to suppress it and to improve the condition of the Africans—and his warm friendship for his guest, we can well believe that his words were "so heartfelt, so truthful, so pathetic, that there were more tearful eyes than dry ones at its conclusion."

1858. Æt. 73. Shortly before he left England, Livingstone wrote to Sedgwick:

From Dr David Livingstone.

50 ALBEMARLE ST., LONDON,
6th February, 1858.

My dear Friend,

This is the last week but one I have to spend in England, and as a parting salutation I shall refer to a loving Christian letter you favoured me with more than six weeks ago. I thank you sincerely for the expressions of sympathy it contains, and assure you that I go forth again cheered by feeling that I have such as you looking on and beckoning me to proceed.

That you may have a clear idea of my objects I may state that they have something more in them than meets the eye. They are not merely exploratory, for I go with the intention of benefiting both the African and my own countrymen. I take a practical mining geologist from the School of Mines to tell us of the mineral resources of the country. Then an economic botanist to give a full report of the vegetable productions—the fibrous, gummy, and medicinal substances together with the dye-stuffs—everything which may be useful in commerce. An artist to give the scenery. A naval officer to tell of the capacity of the river-communication, and a moral agent to lay a Christian foundation for anything that may follow. All this machinery has for its ostensible object the development of African trade, and the promotion of civilization, but, what I tell to none but such as you in whom I have confidence, is this: I hope it may result in an English colony in the healthy highlands of Central Africa (I have told it only to the Duke of Argyle). I believe the highlands are healthy. The wild vine flourishes there. Europeans, with a speedy transit to the coast, would collect and transmit the produce to the sea, and in the course of time, say when my head is low, free labour on the African soil might render slave-labour, which is notoriously dear labour, quite unprofitable. I take my wife with me, and one child. We erect an iron house near the Kafue to serve as a depot that we may not appear as vagabonds in the country. And may God prosper our attempts to promote the welfare of our fellow-men!

With this short statement you may perceive our ulterior objects. I want you to have an idea of them. I shall always remember you and Trinity with fond affection. Pray remember me kindly, and say farewell to Professor Whewell. Your Auditor has given me two dozen of audit-ale, and I hope to drink your health and prosperity to your college with it on the banks of the Zambesi.

I am ever affectionately yours,

DAVID LIVINGSTONE.

To this letter Sedgwick replied at length, but, as his letter has been already printed, we will content ourselves with a single extract: 1858. Æt. 73.

10 *February*, 1858.

"...What a glorious prospect is before you! the commencement of the civilisation of Africa, the extension of our knowledge of all the kingdoms of nature, the production of great material benefits to the old world, the gradual healing of that foul and fetid ulcer the slave-trade, the one grand disgrace and weakness of Christendom, that has defiled the hands of all those who have had any dealings with it; and last, but not least—nay, the greatest of all, and the true end of all—the lifting up of the poor African from the earth, the turning his face heavenwards, and the glory of at length (after all his sufferings and our sins) calling him a Christian brother. May our Lord and Saviour bless your labours, and may His Holy Spirit be with you to the end of your life upon this troubled world!

I am an old man, and I shall (so far as I am permitted to look into the future) never see your face again....Once for all, God bless you[1]!"

Soon afterwards it was decided to print Livingstone's two *Lectures*, and Sedgwick undertook to supply a preface. It was written, he tells us, in the intervals of a long and severe illness, but it betrays no sign of weakness, or want of ability. It is at once a careful digest of Livingstone's two memorable journeys across Africa, an analysis of his character, and a forcible appeal for a more humane treatment of the African races at the hands of England. As one of his friends wrote: "There is much more of information, and still more of moral suggestion, in your introduction than in the *Lectures*[2]."

[1] *The Personal Life of David Livingstone.* By W. G. Blaikie, D.D. 8vo. London, 1880, p. 239.

[2] From David Milne Holme, Esq: 23 August, 1858. The following extract from one of Miss Catherine M. Sedgwick's letters, dated Lenox, 6 August, 1860, is worth quotation. Sedgwick had sent her a copy of Livingstone's *Lectures*.

1858. Æt. 73. Probably nothing contributed more directly to the establishment of the Universities Mission to Central Africa than this short essay.

The death of Dean Conybeare, which took place in August, 1857, had greatly distressed Sedgwick. As usual on such occasions he thought more of his friend's widow and children than of himself, and they were evidently much comforted by his sympathy. One of the Dean's sons thanks him for his "affectionate letters, with all the warm memories of olden days, days which I too remember as warmly, and the kind child's friend who lent his curious store of hammers, and joined in our games, and, best of all, told us such enchanting stories of wandering in the bowels of the earth." Of the letters referred to one only has been preserved, in which Sedgwick speaks of the Dean as "one of my dearest friends, and one of my earliest teachers in geology[1]".

To Dean Peacock.

TRINITY COLLEGE, *February 16th*, 1858.

"...I have not communicated with the Commissioners, and hardly have been in a state to think steadily of anything. I stick to the views we opened in our Blue Book. (1) To make the Professorships worth having, and to compel a *bonâ fide* residence and ample teaching. (2) To make the Colleges pay for new endowments, each out of its own funds, and in proportion to its net income. (3) To encourage goodwill study, by allowing men (after the μικρὸς γόος as poor Sidney Walker[2] pleasantly called it) to take their line, viz.: theology,

"For the giver's sake, and for that it condenses into a sort of essence your friend's large book, it is very precious to me. Still that large book, so full of information and instruction, and so vitalised with the heart of the writer, I had read faithfully. What divine patience, and hope that will not abate one jot that good man has, when, in the face of the growth of the slave-trade, he perseveres in his great, hard work! His pains will not be lost. Holy efforts coinciding with God's laws never are."

[1] To Rev. C. R. Conybeare, 1 January, 1858.

[2] William Sidney Walker, Trin. Coll. B.A. 1819, afterwards Fellow. He died in 1846.

law, physic, and perhaps some other rope's end. Then let them go to drill with their own Professor and his staff, and so pass to their bachelorhood if they answer this drill. But these not to be counted as Honours. Honours, however, to be given (and rewarded) by new Triposes. Such e.g. as the Natural Sciences Tripos already established; though I grieve to say it works very costively—and such (speculatively) as a Tripos that would take in Law, Modern History, Divinity—or any other many-limbed monster—to be hatched hereafter in the womb of Time, or brought forth at once by tapping the academic head as Jupiter once tapped his own. The ordinary honours, classical and mathematical, by all means keep. (4) To have new buildings erected forthwith in the old Botanical Garden, including ample lecture-rooms, experiment-rooms (absolutely necessary), one or two new Museums, etc. etc. There was a plan, and a fair one, but not a brick has been laid down or is likely to be. (5) Send an order to the University for every man of M.A. degree or higher to read old Baxter's shove. This, with a hint about Parliamentary purgatives, might stir us, etc. etc. These are, in kind, the topics I should write about to your Commissioners. But do you mean to send out a Blue Book and publish men's letters? If so, we must look demure; for I think this letter, for example, would look a little odd in the page of a blue-backed Parliamentary folio. Don't you think so?..." 1858. Æt. 73.

To Professor Miller.

March 16th, 1858.

"My dear Miller,

...I went yesterday to Peakirk in Lincolnshire, and there I saw a galaxy of astronomers; and many telescopes standing in a row, like 'the four and twenty fiddlers' you have, no doubt, heard of. But the wedding-ring of the Sun and the Moon was not seen for a single moment, to our great disgust. Strange that so many notorious sky-sweepers could not contrive to sweep the clouds away for one minute. But man is born to sorrow; and we had nothing better to do than

1858. Æt. 73. to twist our thumbs and talk about patience. The barn-door fowls and the ducks did not care one fig about the darkness, though for a quarter of a minute it was such as might be felt. So no more at present from yours in all weathers,

A. SEDGWICK.

To Miss Kate Malcolm.

Sunday morning, *March 21st*, 1858.

".:.Early in our Christmas Vacation I went for a few days to Norwich, that my ears might be cheered with the merry voices of four happy young children to whom I stand in the august relationship of great-uncle; and I may well be a great-uncle; for if I live till to-morrow evening I shall have completed my 73rd year. By changing a single word I might apply two lines of Milton to myself:

'How soon has Time, the subtle thief of youth,
Stol'n on his wing my three and seventieth year!'

or I may say with Shakespeare:

'on our vain decrees
'The inaudible and noiseless foot of Time
'Steals, ere we can effect them!'

Or, better still, may I say with another poet, whose lips were touched with coals of living fire from the altar: 'Now, also, that I am old and grey-headed, O God forsake me not!' In what strange channels our thoughts run! the words great-uncle suggested my birthday; and the thoughts of my birthday brought out these quotations. 'Tis Sunday morning. Your letter has been just read. May all earthly blessings be with you in full measure! I am sorry to hear of the bad temper of the French; but I do not wonder at it. I think that our laws require some change. They ought to be more stringent in cases of conspiracy to commit murder. If the Ministers do nothing to mend them, I shall call them a pack of sneaks—willing to bow their necks to our Radicals. What do you think of this from a man who has been called a Whig (or sometimes a radical) ever since the time he learnt to

shave himself? I think the Emperor's manifesto good and true....[1]" 1858. Æt. 73.

To Mrs Cropper.

LOWESTOFT, *June 5th*, 1858.

"My dear Mrs Cropper,

...It is impossible for me to say whether your friend would do wisely in giving the course of popular lectures you allude to. All I know is, that several clergymen have made similar attempts, and committed themselves to assertions some of which I think incorrect as to fact, and inconclusive as to argument. In all such cases lectures do more harm than good; because a hearer who is afterwards told of any mis-statement as to fact may easily be led to think that the fault is in the Mosaic record, and not in the ignorance of the lecturer. I once thought (with Buckland) that we had good physical proof of a general deluge that must have happened a few thousand years since. I afterwards doubted the evidence (I mean the geological evidence), though I still believe that a vast physical change has taken place in the surface of the northern hemisphere within a recent period. By recent, I mean again, a period of only a few thousand years. Another opinion I formerly held was this: viz. that the modern period was more distinctly separable from the anterior period than it proves to be on further investigation....Do you think your friend has all his facts well in hand? If not, he certainly is ill-prepared for his task. I have no fear about the ultimate result, but we have ample work for another half-century before we can be prepared to draw our lines of demarcation correctly, and till that is done I should think it premature to talk of

[1] After the attempt on the life of Napoleon III. by Felix Orsini (14 Jan. 1858), there was a strong feeling in France against England, where Orsini had resided for some years. Lord Palmerston introduced a Bill (8 February) "to amend the law with relation to the crime of conspiracy to murder." On this the Government were defeated and resigned. Lord Derby, on taking office (1 March), said nothing about altering the law of conspiracy, though in a previous speech (4 February) he had intimated that he thought some alteration desirable.

1858. Æt. 73. comparing the geological days (or periods) with the Mosaic days. That this will be done one day I have very confident expectation, because we have already done much, though a few blots remain to be removed by the honest scrubbing-brushes of the rising generation of geologists[1]....

I have sent you a drum-head judgment upon some difficult questions, about which I should be sorry to give a public lecture, lest I should be a false guide over points respecting which I do not profess to see my own way very clearly. Still I do think the knights of the hammer have done some good, perhaps more than the old Templars. (1) It is something to prove against some sturdy infidels (who would scoff at the Bible if it were spoken of) that the world is not eternal. Therefore it was created by a power external to itself, acting with prescient wisdom, and ordaining all laws by which the order of nature is maintained. (2) The same creative power has not been quiescent, but has been employed again and again in replenishing and renovating the earth. (3) Land and sea have changed place. The tops of our highest hills have been under water. Therefore the fact of an historic deluge is not impossible or improbable. (4) Though the world is very old (we have no measure of the epochs of geology, only we are certain that they involve enormously long periods) man is but a creature of yesterday....

Ever your true-hearted old friend,

A. SEDGWICK.

Sedgwick's mind was evidently still full of the subject of the last letter while in Residence at Norwich in August. "Today," he writes, "I preached a long sermon on the first commandment to a very large congregation; and, God willing, I hope to go on with the subject in another discourse; as my sermon of today was in a good measure introductory

[1] The omitted passage contains a discussion on the meaning of the days of creation. Sedgwick's views on this question have been already stated. See above, pp. 76—80.

and historical[1]." This intention was frustrated by a serious attack of giddiness, which came on while preaching, perhaps the very sermon to which he here alludes; and his doctor ordered him to abstain from sermons, letter writing, and all mental exertion. "I have obeyed him so well," he wrote in October, "that my head, which was a few weeks since like a humming-top, is now as quiet and steady as a great spherical stone on a gatepost; yes! and almost as dull and senseless[2]." These attacks, which now came on more frequently than heretofore, determined him to resign his seat on the Council of the Senate, and to announce once more his approaching retirement from his Professorship. 1858. Æt. 73.

At the end of October a meeting of members of the Governing Bodies of the Colleges was held in the Arts School, to discuss the statutes proposed by the Commissioners. It would be beside our present purpose to discuss this complex question; and we only notice it so far as Sedgwick was concerned with it. The Commissioners had suggested, among other changes, that "any Fellow should vacate his Fellowship at the end of ten years after attaining the full standing of Master of Arts, except in certain specified cases." This was opposed by the Master of St John's College, Dr Bateson. Sedgwick seconded his motion. It will be interesting, having regard to the measures since adopted, to note the line he took. "He looked," he said, "upon his Fellowship as a freehold. It was a proud day for him when he was made a Fellow of Trinity; he felt that he possessed something which he had gained honourably, and which he could look forward to as bearing upon his success in life. Most men had that feeling, and he could not conceive anything more degrading than to make it a terminable annuity. He had been a Fellow for a long time, for it was now fifty-four years since he was a freshman; but his conscience did not accuse him of being an idle Fellow. With respect to the line which he had taken,

[1] To Mrs John Sedgwick, 8 August, 1858.
[2] To Miss Kate Malcolm, 16 October, 1858.

1858. Æt. 73. whether wise or unwise, good or bad, he could not have taken it if his Fellowship had not been a freehold. This might be egotistical, but let every man speak from his own experience. He had his Fellowship to rest upon, for there was no great harvest from his Professorship. He still held his Fellowship; in a few months he intended to resign his Professorship, and retire upon his freehold. This was an example, and he had a right to speak of it. He believed that, with a modification of circumstances, the same sentiments applied to many around him. He believed, with the Master of St John's, that the proposition of the Commissioners would tend to the moral degradation of the different societies; it would encourage favouritism, and all those points which lowered the moral standard of academic bodies.

The proposals of the Commissioners entailed a long series of meetings of the Governing Body of Trinity College. These discussions were exceedingly distasteful to Sedgwick, who in his old age had ceased to be a reformer, except on one or two vital questions—such as the abolition of tests. He speaks of being "worried by the College meetings, where we wrangle and discuss the new Statutes;" and when they were completed he has no good word to say for them:

To Miss Gerard.

CAMBRIDGE, *April* 13, 1859.

"...The post has...brought me our new Statutes under the formidable seal of the Parliamentary Commission. They came to me because the Master happens to be out of Cambridge. So I have sent our Chapel Clerk (a kind of College *Mercury*) to summon all the Fellows of the House who are now in residence, to meet me, in two hours, at our Combination Room, that we may look at our chains, and think about fitting them on. I hate the sight of them; for I have had a peep, and I think their provisions may take away all future glory from the noble society where have lived such men as Newton, and Bacon, and Barrow, and Bentley, and Ray, and Cowley, and Dryden, and thousands of good and

true men. We are working well on the whole. We might have been improved on material points. These the Commissioners have not touched; but they have done that which will tend, I verily believe, to degrade the moral character and independent loyalty of the College. Forgive this outbreak..." 1858. Æt. 73.

To Miss Kate Malcolm.

CAMBRIDGE, *December 8th*, 1858.

"...During this Michaelmas term, so soon as I returned from my poor suffering brother, I began my lectures. I breakfast early—perhaps more early than your dear noble-hearted father used to do at Hyde Hall. It is the true break of fast—one cup of coffee and a biscuit. My lecture at 12. About 1.30 I returned, and latterly have shut myself up all the rest of the day, dining at 2, or 2.30, very very sparely, and in the evening avoiding all reading requiring thought. I was ordered to this course in consequence of a tendency to giddiness after the excitement of the lecture. So I have not been dining in Hall, and I have hardly ever been out. What did I do in the evening? I twirled my thumbs; read reviews; a few sermons; a few volumes of Walter Scott (I am thankful to say that I can enjoy them almost as much as ever); naughty, nasty, surly Dean Swift (but a wonderful man with all that); and Shakespeare. And I wrote many letters. They form a part of my malady. 'Write as few letters as you can, and write no long ones' has been rung in my ears by Dr Paget almost day by day since I began to show signs of giddiness. On Monday I finished with a terribly long address, and to a crowded class. I was much cheered by them; but it was a sorrowful feeling to me when I had to tell them that it was the last lecture of my last course...."

To Rev. P. B. Brodie.

CAMBRIDGE, *December 31st*, 1858.

"...I gave my 40th and last course of lectures during the past Michaelmas term, and they were addressed to the largest class that ever sat before me. From my elevated platform I

1858. Æt. 73. declare that the lads looked as if they had been jammed down by a pavier's hammer! It was, however, a painful task to tell them in my concluding lecture that I should never again address them as Professor. I cannot now do the exploring field-work. 'Tis poor work to be retailing other men's adventures. Were I to consult my personal convenience I should resign my Chair *immediately*; but there is much work still to be done in the Museum which cannot be well done without my superintendence. I do hope in the spring months to put the remaining chaos in order by help of my younger geological friends. And I have an excellent assistant in young Barrett. He works, however, exclusively at the palæontological department. I wish you had time to visit our Museum. It would, I think, make you open your eyes a little. Our chalk collection was poor when you last saw the Museum. Now, it is excellent. Of course you have heard of the works going on in the thin bed of upper Green-sand. Many hundred men are employed in turning out this (so-called) coprolite bed, and many steam-engines are working machinery to wash out the phosphoritic nodules. During this process they find multitudes of strange fossils. About thirty species of Reptiles, three species of Pterodactyles, multitudinous specimens of *Chimæra*[1], etc. etc. have been turned out, and found their way into our Museum.,.."

A rough outline of this last lecture—written very hastily, and in parts almost illegible—has been found among Sedgwick's papers. The preparation of such a document may be taken as evidence that in what he had said about immediate resignation he was then perfectly in earnest; and that he proposed to take a formal farewell of his class. It is much to be regretted that he did not take the further precaution of having his words accurately reported.

The lecture was divided into two parts: a history of the Museum, that is, of the Museum as developed during his

[1] The group of Chimæroid Fishes, including various genera, e.g. *Hybodus*, etc.

own occupation of the Chair; and, a history of geological work and speculation. 1858. Æt. 73.

The first part opened with a biographical sketch, which we will transcribe, as it amplifies, and in some particulars corrects, what has been already said respecting Sedgwick's early years as Woodwardian Professor.

Elected 1818, Spring. First lectures, Easter term of 1819[1]. Therefore 40th course now finished.

(1) What led me to be a candidate? Was it that I was like an overloaded dam ready to burst its barrier? That I was anxious to form a store of knowledge, etc.? Not so. The dam was empty. Cuvier's *Theory*—several *Reviews*—E. D. Clarke's Lectures—. But E. D. Clarke was a benefactor, and how. He gave a start—he kept us awake, etc.—. And I had when a schoolboy made a collection of carboniferous fossils.

(2) I lost my health by hard reading—by the festive habits of the University—and for five years I was in a condition often of wretchedness[2]. Caution the young men. Therefore in 1818 I became a candidate for the Woodwardian Chair then vacant. I knew very little indeed of geology—just enough to know that it was a glorious and healthy field in which I might find ample enjoyment and better health. I gained the chair in open election. I had given no promise except to lecture on geology—and the University (by a special Grace) took good care that some lectures should be given[3]; but they provided no lecture-room. No lectures, no pay. About two years afterwards Mr Serjeant Frere, Master of Downing—let me tell it with gratitude—introduced a Grace (still on condition of lectures) that another £100 should be added[4]. Ever since £218 a year.

First lectures in 1819, on Isle of Wight specimens[5]. Collections year by year—from the newest strata down to oldest—from Land's End in Cornwall to John o' Groat's house and the Head of Hoy. Arrangements made year by year. But about 1822 fears of an approaching state of suffocation—geological congestion. Therefore a syndicate (Wordsworth V. C.)[6]; and a proposal of Botanic Garden

[1] This draft had not been discovered when it was concluded (Vol. i. pp. 203, 204) that Sedgwick began to lecture in the *Lent* Term of 1819.

[2] Sedgwick broke down in 1813 (Vol. i. p. 127). For the effects of this illness, as admitted by himself, see Vol. i. pp. 130, 499.

[3] Vol. i. pp. 197, 198.

[4] Ibid. p. 224. The Grace in question passed in 1821.

[5] Collected in company with Mr Henslow (Ibid. p. 204).

[6] A Syndicate, of which Sedgwick was a member, was appointed by Grace, 14 March, 1821, "for considering and reporting to the Senate on the means proposed to be adopted for building a Museum for the Woodwardian collection, and for obtaining estimates, and other requisites for the same." This Syndicate

1858. Æt. 73. rejected, and why[1]. Waited for the new Library buildings, and before I had a Museum I waited about 24 years.

This is succeeded by an enumeration of the various gifts made to the Museum year by year, most of which have been already chronicled in our narrative. The following notes, however, are valuable.

Enormous labour of unpacking in 1841. More than a quarter of a year in unrolling specimens. Great cost to the University, and great to myself. Not on the Committee of fitting-up the Museum, and some waste of capital and accumulation of the Woodwardian Estate. Too architectural—worse than nothing—but still good.

Three objects at starting: (1) a new museum; (2) an adequate collection; (3) a course of lectures. All are accomplished—all I ever looked forward to. Geology a hard task-mistress, but paid me in health and happiness. Geologist like the fabled Antæus. He may be at first half conquered by the task before him—but the moment he touches mother earth with his hammer—down go all fear and ill-bodings to the nether darkness—*θεοῖς ἐπιχθονίοις*.

Woodward put the ban of domestic sterility on his Professor, but my Museum is in the place of wife and children; and my family are mute as the inhabitants of the water, and never scold me, nor ever express a want—and how few men of the Benedictine Order can say as much. It is well to laugh at our chains while they are fast locked upon us. But after 40 years 'tis time for me to put my house in order.

The second part of the lecture is an outline of the geological history of the earth—probably a *resumé* of the course of lectures he had just been delivering. He touches on Lyell's views—"not true, and based on a false analogy;" on Hugh Miller's interpretation of the days of creation—"much truth here, but not exact truth, and I am bound to tell you truth so far as I know it;" on the "theory of development and transmutation," which is criticised on the lines laid down in his article in *The Edinburgh Review;*

reported (without date) that the Woodwardian surplus amounted to £1700, which might, they thought, be properly applied to the erection of a suitable Museum and Lecture-room; and "that the University should, from its own funds, add such sum as may be necessary for the speedy erection of sufficient and proper buildings, whereby the accommodation of other Professors also may be materially consulted." This Report was never confirmed by the Senate, and the subject dropped.

[1] This must refer to some scheme, now forgotten, for erecting a Geological Museum in the old Botanic Garden, before the new Library buildings were planned.

"the actual advance of development," from a geological standpoint, is pointed out; and, in conclusion, the "fœtal theory" comes in for its share of criticism. "It cannot explain advance of organic type, because all our forms would be lower than the parent type. But ladies may in the end (says the author of the *Vestiges*) produce a race of angels. I fear they will be dark ones." Here the MS. ends. 1859. Æt. 74.

At the beginning of February, 1859, Sedgwick lost his brother John. The event had been long expected, for he had for some months been suffering from a painful illness which could have but one termination, and when they parted in January they felt that they should never meet again. Soon afterwards his son was unanimously chosen by the statesmen of Dent to be their Vicar. Sedgwick was delighted with this arrangement. "I shall now have two homes in Dent," he wrote, "for Jane and Isabella mean to go into a cottage on the outskirts of the village." From another point of view the change was not agreeable, for it put an end to the domestic life at Norwich with which his nephew's marriage had supplied him. For a time Sedgwick felt the change acutely, but, as his nephews and nieces grew older, he generally had one or two living with him, over whom he watched with the tenderest care—providing alike for their instruction and their amusement.

To Mrs Peacock.

CAMBRIDGE, *April 9th*, 1859.

My dear Mrs Peacock,

I came back from Norwich on Thursday....Your very kind note was on my table containing the excellent photograph of my dear friend the late dean[1]. I value it very greatly, and thank you for it with my whole heart. When I look at it, it brings back to my memory a beautiful sentence of Dr Johnson in one of his Papers in *The Idler*. Speaking of portrait-painting, he calls it: "an art which is employed in diffusing friendship, in reviving tenderness, in

[1] Dean Peacock died 9 November, 1858.

1859. Æt. 74. quickening the affections of the absent, and continuing the presence of the dead[1]." Is not this well said? Johnson never saw a photograph. The sunbeam portrait is indeed a living likeness, and almost realizes the concluding words of the quotation. Again I thank you for it. I shall put it in a frame, and hang it up in my bedroom on a wall where hang the likenesses of my father and mother, and some others whom I loved....

Affectionately and gratefully yours,

A. SEDGWICK.

In July Sedgwick took his widowed sister-in-law and her daughter to Wales for a short holiday; then had "a dash of two days into the Lake country" by himself; and in September went to Aberdeen for the meeting of the British Association of which the Prince Consort was President. He had a cold when he started which the journey did not improve; but he was well enough to read a paper in the Geological Section *On Faults in Cumberland and Lancashire.* No abstract of it appears in the *Report* of the Association; but its title indicates that it was the result of his late expeditions into the Lake Country. The meeting ended with an excursion to Balmoral, which Sedgwick was persuaded to join.

To Mrs Richard Sedgwick.

September 25th, 1859.

"...We started at 6 a.m. precisely, and I did not reach my hotel till one o'clock on Friday morning, much fatigued, and half cramped to death by overclose packing. But I did enjoy the day, spite of the packing, and spite of the cold which would not leave me. We had a most kind and courteous reception. The Castle is new, but in excellent taste. It stands in a beautiful park surrounded by wild Highland mountains. The Prince wore the full Highland costume, bare knees and kilt; so did the Prince of Wales and Prince Arthur. The Queen did look happy and well. She and her

[1] *The Idler* for Saturday, 24 February, 1759. Johnson's *Works*, ed. 1787, viii. 179.

three daughters wore the Stuart tartan, and each had the Highland scarf with the buckle on the left shoulder. The Prince invited me, and urged me, to remain all night and dine with the Queen. But alas! I had no dress fit to appear in. 'General Grey will help you with clothes,' was the remark. But indeed I was unfit to remain, so I begged off. We had a muster of the clans, each coming in full costume, headed by its chieftain, and attended by its bag-piper. The sight was beautiful and striking, but the skirling pipes were a dire ear-torment, at least so I thought. When all was ready the Queen took her place upon a terrace, and then a succession of games began: foot-races; tossing the sledge-hammer; tossing the bar &c.; ending with Highland reels. Then we had a lunch in the ball-room. Everything was beautifully and amply prepared. For my share I secured a very large basin of plain Scotch broth, which saved my life, I think; and I then had the wing of a chicken and a glass of sherry. Others had every kind of luxury you can see at a lunch. About 5.30 the Queen retired amidst the cheers of the multitude, the two regimental bands playing *God save the Queen....*" 1859. Æt. 74.

Sedgwick's friend Miss Malcolm was at this time residing in Devonshire. "I give you joy of your present charming residence," he wrote; "Have I not threaded all the ravines and 'bosky bowers' on the flanks of Dartmoor? Have I not made my hammer ring in Holme Chase and in the country round about it? Have I not seen the granite shooting its great veins through the slate rocks? I wish I could revisit those sweet and grand spots where Nature has indulged in her revelry; and then I would teach you to suck marrow from her bones, and not to confine your admiration to the sprigs upon her green mantle![1]" His next letter to her describes his proceedings during the Michaelmas Term:

[1] To Miss Malcolm, 15 October, 1859.

1859. Æt. 74. *To Miss Kate Malcolm.*

TRINITY COLLEGE, *November 29th*, 1859.

My dear Kate,

...About a week after my return to College I began my lectures, and have ever since been going on steadily without much fatigue, and without a single interruption. Thank God! I am infinitely better than I was last year; and I have given two field-lectures during the term, once reaching as far as the Ely clay-pits, with a part of my class. Bravo! for an old toothless Professor who has been lecturing every year since he began his first course in the spring of 1819! To keep my head up I avoid all dinner-parties; though I sometimes go out in the evening. So sternly do I keep my rule, that I refused two dinner invitations while the Bishop of Oxford and Sir George Grey and Mr Gladstone were here to attend the meeting in behalf of a Church Mission to Central Africa. We had a glorious meeting. It was the great event of this Michaelmas term. I was urged to take a more prominent part on the occasion; but I refused, on the ground of health. I dared not trust myself to make any leading motion, lest my head should give way under the excitement. I am still (without great care) liable to attacks of giddiness; and when they come upon me I am unable to gather my thoughts together. I have two more lectures to give this week. Next week (at least during the first half of it) Science must bow its beggarly head to the great divinity *L. S. D.* We have our annual Trinity College audit, and I shall have also to attend the Chapter at Norwich. Those services to Mammon being over, I shall give my concluding lecture; and it may perhaps be as long as one of old Kittle-drummel's sermons described in the true history of *Old Mortality*. My course ended, an examination. The examination papers read (a good week's work, but not good for weak nerves and sore eyes), I shall be again a free man. If I can keep bronchitis from my throat I do hope to go down to Dent

and to celebrate Christmas Day in the old parsonage. My poor sister-in-law and Isabella are still in the old house; but preparing to move into the cottage where my dear good old father spent the latter years of his long life. Richard (my nephew) and his wife and children expect to remove to the old parsonage of Dent in the early part of next January. Is not this sad, dull, home-spun stuff? But what better can you expect from an old solitary Fellow of a College. I am now the oldest Fellow in the University. Is it not a melancholy honour? The Master seems happy; and his wife is a sweet-tempered, courteous, right-minded person, whom we all of us love and admire....

1859. Æt. 74.

Ever your true-hearted old friend,

A. SEDGWICK.

At the ever memorable meeting to which Sedgwick here alludes, held in the Senate House on All Saints Day, he spoke last. He did not attempt to deal with the broader aspects of the question, which had been eloquently handled by the speakers who had preceded him; but, taking a large map of Africa, he traced the routes of previous explorers, and lastly, that of Livingstone. No speech could have been better suited to the occasion; for it brought the subject down from the vague regions of rhetoric to the firm ground of common sense, and pointed out, clearly and practically, what had been already accomplished, and what might still be done if Livingstone were vigorously supported.

When Sedgwick came to the end of his lectures in December, he was still in earnest about resignation, and delivered another farewell lecture, for which, as in the previous year, he prepared a rough draft. "The state of the Museum is the cause that keeps me here," he told his class; "I leave it as soon as the arrangements are more complete, and next spring I hope to put the rocks in some order by help of my young friends of the University." By this time Barrett had left Cambridge, and a new scientific assistant,

1859. Æt. 74. Mr H. G. Seeley, had taken his place. With his help the work in the Museum went merrily forward; and Sedgwick soon found that he had met with a skilful and hardworking geologist, who could not only be trusted to arrange and increase the collection, but who could occasionally take his place in the lecture-room.

In November of this year Darwin published his essay *On the Origin of Species*. One of the first copies was sent to Sedgwick with the following letter:

DOWN, BROMLEY, KENT,
November 11th, 1859.

My dear Professor Sedgwick,

I have told Murray to send you a copy of my book *On the Origin of Species*, which is as yet only an abstract. As the conclusion at which I have arrived after an amount of work which is not apparent in this condensed sketch, is so diametrically opposed to that which you have often advocated with much force, you might think that I send my volume to you out of a spirit of bravado and with a want of respect, but I assure you that I am actuated by quite opposite feelings. Pray believe me, my honoured friend,

Your sincerely obliged,
CHARLES DARWIN.

To Charles Darwin, Esq.

CAMBRIDGE, *December 24th*, 1859.

My dear Darwin,

I write to thank you for your work *On the Origin of Species*...[1]

If I did not think you a good-tempered, and truth-loving man, I should not tell you that (spite of the great knowledge, store of facts, capital views of the correlation of the various parts of organic nature, admirable hints about the diffusions, through wide regions, of nearly related organic beings, &c., &c.) I have read your book with more pain than pleasure. Parts of it I admired greatly, parts I laughed at till my sides were almost sore; other parts I read with absolute sorrow, because I think them utterly false and

[1] The omitted passages contain Sedgwick's reasons for not having acknowledged the gift sooner. The whole letter is printed in Darwin's *Life*, ii. 247.

grievously mischievous. You have *deserted*—after a start in that tram-road of all solid physical truth—the true method of induction, and started off in machinery as wild, I think, as Bishop Wilkins's locomotive that was to sail with us to the moon. Many of your wide conclusions are based upon assumptions which can neither be proved nor disproved. Why then express them in the language and arrangements of philosophical induction? As to your grand principle—*natural selection*—what is it but a secondary consequence of supposed, or known, primary facts? Development is a better word, because more close to the cause of the fact. For you do not deny causation. I call (in the abstract) causation the will of God; and I can prove that He acts for the good of His creatures. He also acts by laws which we can study and comprehend. Acting by law, and under what is called final cause, comprehends, I think, your whole principle. You write of 'natural selection' as if it were done consciously by the selecting agent. 'Tis but a consequence of the presupposed development, and the subsequent battle for life. This view of nature you have stated admirably, though admitted by all naturalists and denied by no one of common sense. We all admit development as a fact of history; but how came it about? Here, in language, and still more in logic, we are point-blank at issue. There is a moral or metaphysical part of nature as well as a physical. A man who denies this is deep in the mire of folly. 'Tis the crown and glory of organic science that it *does*, through *final cause*, link material to moral; and yet *does not* allow us to mingle them in our first conception of laws, and our classification of such laws, whether we consider one side of nature or the other. You have ignored this link; and, if I do not mistake your meaning, you have done your best in one or two pregnant cases to break it. Were it possible (which, thank God, it is not) to break it, humanity, in my mind, would suffer a damage that might brutalize it, and sink the human race into a lower grade of degradation than any into which it has fallen since

1859. Æt. 74.

1859. Æt. 74. its written records tell us of its history. Take the case of the bee-cells. If your development produced the successive modification of the bee and its cells (which no mortal can prove), final cause would stand good as the directing cause under which the successive generations acted and gradually improved. Passages in your book, like that to which I have alluded (and there are others almost as bad), greatly shocked my moral taste. I think, in speculating on organic descent, you *over*-state the evidence of geology; and that you *under*-state it while you are talking of the broken links of your natural pedigree: but my paper is nearly done, and I must go to my lecture-room. Lastly, then, I greatly dislike the concluding chapter—not as a summary, for in that light it appears good—but I dislike it from the tone of triumphant confidence in which you appeal to the rising generation (in a tone I condemned in the author of the *Vestiges*) and prophesy of things not yet in the womb of time, nor (if we are to trust the accumulated experience of human sense and the inferences of its logic) ever likely to be found anywhere but in the fertile womb of man's imagination.

And now to say a word about a son of a monkey and an old friend of yours. I am better, far better, than I was last year. I have been lecturing three days a week (formerly I gave six a week) without much fatigue, but I find, by the loss of activity and memory, and of all productive powers, that my bodily frame is sinking slowly towards the earth. But I have visions of the future. They are as much a part of myself as my stomach and my heart, and these visions are to have their antitype in solid fruition of what is best and greatest. But on one condition only—that I humbly accept God's revelation of Himself both in His works and in His word, and do my best to act in conformity with that knowledge which He only can give me, and He only can sustain me in doing. If you and I do all this, we shall meet in heaven..

I have written in a hurry, and in a spirit of brotherly love.

Therefore forgive any sentence you happen to dislike; and believe me, spite of our disagreement on some points of the deepest moral interest, your true-hearted old friend, 1860. Æt. 75.

A. SEDGWICK.

ILKLY WELLS HOUSE,
OTLEY, YORKSHIRE,
26 *November*, 1859.

My dear Professor Sedgwick,

I did not at all expect that you would have written to me. You could not possibly have paid me a more honourable compliment than in expressing freely your strong disapprobation of my book. I fully expected it. I can only say that I have worked like a slave on the subject for above twenty years, and am not conscious that bad motives have influenced the conclusions at which I have arrived. I grieve to have shocked a man whom I sincerely honour. But I do not think you would wish anyone to conceal the results at which he has arrived after he has worked, according to the best ability which may be in him. I do not think my book will be mischievous; for there are so many workers that, if I be wrong I shall soon be annihilated; and surely you will agree that truth can be known only by rising victorious from every attack.

I daresay I may have written too confidently from feeling so confident of the truth of my main doctrine. I have made already a few converts of good and tried naturalists, and oddly enough two of them compliment me on my cautious mode of expression! this will make you laugh...

I have tried to be honest in giving all the many and grave difficulties which occurred to me, or I met in published works. I cannot think a false theory would explain so many classes of facts, as the theory seems to me to do. But *magna est veritas*, and, thank God, *prævalebit*. Forgive me for scribbling at such length, and let me say again how grieved I am to have encountered your severe disapprobation and ridicule. Your kind and noble heart shews itself throughout your letter. I thank you for writing, and remain, with sincere respect,

Your truly obliged,

CHARLES DARWIN.

To Miss Gerard.

NORWICH, *January 2nd*, 1860.

"...I have read Darwin's book. It is clever, and calmly written; and therefore, the more mischievous, if its principles be false; and I believe them *utterly false*. It is the system of the author of the *Vestiges* stripped of his ignorant absurdities.

1860. Æt. 75. It repudiates all reasoning from final causes; and seems to shut the door upon any view (however feeble) of the God of Nature as manifested in His works. From first to last it is a dish of rank materialism cleverly cooked and served up. As a system of philosophy it is not like the Tower of Babel, so daring in its high aim as to seek a shelter against God's anger; but it is like a pyramid poised on its apex. It is a system embracing all living nature, vegetable and animal; yet contradicting—point blank—the vast treasury of facts that the Author of Nature has, during the past two or three thousand years, revealed to our senses. And why is this done? For no other solid reason, I am sure, except to make us independent of a Creator..."

To Professor Owen.

CAMBRIDGE, Wednesday Morning [28 *March*, 1860].

My dear Owen,

...I want to pick your brains about 101 things. About Darwin's theory, about Agassiz, about the Reptiles in our (so-called) coprolite bed. By the way, I will send you a copy of last week's *Spectator*. Near the end of it is a long letter first sent to the Archbishop of Dublin[1], assuredly without any intention of its publication. But his Grace took on himself the office of man-midwife, and delivered the said brainchild to the office of *The Spectator*. The first publication fell into the hands of the *unknown Author;* who sent some corrections etc., though the staple of the letter still remained, word for word, as first written by him. For example; in one sentence the name of *Owen* appeared in the place of *Oken*, and *Pachyderms* were called *Pachydemics*[2]! I want to learn

[1] Richard Whately, D.D.

[2] Sedgwick's letter appears in *The Spectator*, 24 March, 1860, p. 285, introduced by the following sentence: "The Archbishop of Dublin has received the following remarks in answer to an inquiry he had made of a friend (eminent in the world of science) on the subject of Darwin's theory of the origin of species." It is reprinted, with considerable additions, "revised and corrected by the author" in the same Journal, 7 April, 1860, p. 334. Darwin at once recognised that the

your views about creation's law. It is clear that there has been a law governing the succession of forms. But here, by *law*, I mean order of succession, and not a law like that of gravitation, out of which the actual movements of our system follow by mechanical succession. In that sense I do not believe in any law of creation. The highest point we can, I think, ever reach is a law of succession of forms, each implying a harmonious reference to an archetype, and each having indications of the action of a final cause—i.e. of intelligent causation, or creation. My belief is: 1st, that Darwin has deserted utterly the inductive track—the narrow but sure track of physical truth,—and taken the broad way of hypothesis, which has led him (spite of his great knowledge) into great delusion; and made him the *advocate*, instead of the *historian*—the teacher of error instead of the apostle of truth: 2nd, I think that (whether he *intends* it or not, or *knows* it or not) he is a teacher of that which savours of rankest materialism, and of an utter rejection of the highest moral evidence, and the highest moral truth. I must stop for want of room,

1860. Æt. 75.

Ever yours,

A. SEDGWICK.

Sedgwick's letter in *The Spectator* was followed up at no distant date by a direct public attack on *The Origin of Species*. He made a communication to the Cambridge Philosophical Society (7 May): *On the succession of organic forms during long geological periods; and on certain theories which profess to account for the origin of new species.* A careful synopsis of the paper, or lecture, supplied by himself to *The Cambridge Chronicle*, shews that the theory was attacked wholly from the geological side, and declared to be a mere

article was by Sedgwick, and wrote: "I now feel certain that Sedgwick is the author of the article in *The Spectator*. No one else could use such abusive terms. And what a misrepresentation of my notions! Any ignoramus would suppose that I had *first* broached the doctrine that the breaks between successive formations marked long intervals of time. It is very unfair. But poor dear old Sedgwick seems rabid on the question." *Life of Darwin*, ii. 297.

1860. Æt. 75. hypothesis, at variance with the true inductive methods of attaining truth. There was a full meeting of the Society, and a lively discussion on the subject of the lecture ensued, in which several leading members took part. Henslow, though not a thorough-going partisan, defended Darwin; and Professor Clark, though disposed to agree in the main with Sedgwick, did his best to impart a philosophical tone to the discussion by suggesting that the theory ought to be classed among those imperfect inductions which point the way to truth. But the general sense of the meeting was unquestionably, we have heard, on Sedgwick's side.

In March Sedgwick sat to Mr Woolner for the bust now in the Library of Trinity College. He beguiled the hours of sitting with general literature. "I amused myself with (and sometimes swallowed like a glutton) pages of Chaucer, Milton, Shakespeare, Dryden, and Pope. I read also a good many pages of Cowley. And then I read Johnson's *Life of Cowley*, one of the best of the Doctor's works. I think I have, at different periods, read it a dozen times. And then I read (for the third or fourth time) Walter Scott's very amusing and very valuable *Life of Dryden*. I have amused myself also with comparing, in choice passages, old Chaucer in his own dress with the same passages done by Dryden into more modern English, and greatly do I prefer the original in its old-fashioned garb. When you come to me with your mother next autumn, while I am residing at Norwich, I will write out for you a series of comparative passages, with Chaucer's spelling a little changed, and his words accented as they were then sounded; and I do think you will feel the exquisite beauty of his writing. But the work entire will not do for a lady to read, so full is it of gross impurity.....I saw old Wordsworth not very long before he died. He was above eighty, I think, and in sorrow for the loss of his daughter, when I joined him in a long walk, the last day I ever saw his face. And one sentence I remember, not the very words, but the thoughts he gave utterance to: 'Whatever men may say

or think of my poems, there is not, I trust, one line in them I should now, in my old age, wish to blot out, because it was likely to injure the moral purity of my fellow-creatures. Some men, alas! have been the teachers of evil in their own days, and in generations after them[1].'" 1860. Æt. 75.

A lecture, *On the Strata near Cambridge, and the Fens of the Bedford Level,* delivered in the Town Hall (25 May) to the members of the Working Men's College; and the Young Men's Christian Association, was Sedgwick's next work. "It was well received, and did not very much fatigue me," he writes. Fortunately it was well reported, and he was therefore enabled to publish it, with a *Supplement*, and a plate of sections, prepared for him by Mr Barrett. In June we find him taking a short holiday in London, where the annual exhibitions of pictures offered never-failing attractions.

To Miss Isabella Sedgwick.

LONDON, *June 2nd*, 1860.

"...I turned in to see the Exhibition of the Royal Academy. I did not like Landseer's picture of the Highland Flood any better than I did before. It is clever in many of its details, but its colour is dismal; and why not relieve it by some gleams of broken light, which would have been quite natural during a tempest? Still it is, in many respects, a great picture, and no one else could so well have painted the dead and dying cattle, etc. Millais' Black Brunswicker is admirably painted, but it is as stiff as a poker. He has very great power if he would use it well; but all the pre-Raphaelites are a set of coxcombs. I wish he would set to work to paint a Quaker wedding. How well he would bring out the stiff dresses and rigid features of that honest sect, who, in spite of forms, have become such buckram formalists....

The pre-Raphaelite Hunt's famous picture of Christ discussing with the Doctors in the Temple is stiff, formal, but exquisitely painted. Some of the Jewish doctors are

[1] To Miss Isabella Sedgwick, 16 April, 1860.

1860. Æt. 75. strikingly conceived, but they do look very Jewish. The figure and countenance of the young Saviour displease me. Mary, who has just found her lost son, is pleasing and calm, yet earnest. Joseph is without meaning—a very insipid Jew. The architecture is fanciful, and the whole effect looks too like a Japanese enamel. In an upper room were two pictures by Rosa Bonheur. The group of Highland cattle is quite glorious. A group of Spanish muleteers crossing a pass of the Pyrenees is also very good....

I then visited the French exhibition. There were one or two good pictures relating to scenes at Paris during the Reign of Terror; but there was a picture of two Sisters of Charity, dressed in costume, and of the size of life—one with a sick child in her lap, and the other mixing a prescription—which had such deep and touching interest that I could look at nothing else while I was in the room. There was nothing of strain or trick about it. The calm tenderness of the nursing nun, and the beauty of the poor sick child, were quite heavenly. The colouring is very pleasing, but slight. I do not know what the artists say about it; but I do know what I felt; and I mean to see it again once more before I leave London...."

The British Association met this year at Oxford, and Sedgwick not only went, but presided over the Geological Section. He was the guest of Professor Phillips—an old and tried friend—who took such care of him that in spite of bad weather, gout, and other ailments, he went through the whole meeting, with its varied engagements, social as well as scientific, without much difficulty, and could speak of himself at the end as being still "fresh as a lark." The University selected him, among others, for the honorary degree of Doctor of Civil Law. "I was *very well* received," he writes, "The cheering was very general and very loud, when I was presented to the Vice-Chancellor[1]."

[1] To Miss Isabella Sedgwick, 1 July, 1860.

In the Michaelmas Term he lectured as usual. "I had an enormous class," he writes, "including a good many ladies. My lectures now fatigue me, and I have not yet quite recovered from the lassitude of this morning's work in my Museum[1]." 1861. Æt. 76

To Miss Isabella Sedgwick.

CAMBRIDGE, *February 15th*, 1861.

"...Mrs Livingstone is now on a visit to a clergyman at Barnwell. I could not go to Barnwell to call upon her, and I cannot stand a dinner-party without the risk of a very severe punishment. But I cooked up a lunch-party; and yesterday we mustered sixteen at my table in the inner room.

Mrs Livingstone is just what you would expect in the wife of a missionary who during many a long year had refused no kind of labour while she was toiling with her husband in works of love among the poor Africans, far away from any one who knew the sounds of her native tongue. She is plain and simple in manners, and (like her husband) does not seem to think that she has done anything remarkable or deserving of high praise. The Master of St John's College and his wife, and Miss Burns, granddaughter of that glorious lover of rural song—that heaven-born poet of Scotland—were of the party. And I mustered two Divinity Professors and their ladies, and several other members of the University who had known Dr Livingstone, and were supporters of the African Mission from Cambridge. We were all of one mind, and all of us right glad to meet the heroic Christian lady. No! I will not say *lady*, but *woman*, which is a far *dearer* name. Every one seemed quite happy, and we had much cheerful talk. Before we adjourned to my first room I made a bit of a speech. I thanked them for coming on so short a notice; told them how happy I was to have at my right hand such an heroic Christian sister, in meeting whom they all felt a happiness like mine; that persons who had braved the greatest dangers,

[1] To Mrs Martin, 7 November, 1860.

1861. Æt. 76. and done the best and greatest deeds, were often of very quiet and simple manners—as I had myself twice remarked when I was sitting by the side of the Duke of Wellington; that I had another great pleasure in seeing at my table the granddaughter of that great poet of Scotland, whose strains reach the heart of every man and woman who had a soul to apprehend and a heart to feel; that by a happy accident all these joys had come together on the poetic day of love—the day of *Valentine;* that I trusted we were enjoying a full bumper of true Christian love, etc. etc. And I concluded by proposing the health of Dr Livingstone, and success to his Christian labours, and calling on them to pray with earnest hearts that the God who had shielded him in so many dangers would shield him still, and after his pious task was done, bring him back in safety to his native land, that he might spend the evening of his life in peace and honour among those whom he best loved in this world. This health was drunk honestly and heartily. We then adjourned to my working-room, and had a pleasant chat till nearly four, when they went away. A few minutes afterwards came the Porter round with the afternoon letters. What do you think? In them were three valentines! I wish they had come sooner, as they would have made a laugh at the close of my happy party...."

To the same.

February 26th, 1861.

"...Yesterday evening, under most formidable wrappers, I was obliged to go to the meeting of the Philosophical Society. For I had to make a motion, on the part of the Society, to invite the British Association to Cambridge in 1862. There was no need of a long speech. The question was a simple one, and we were of one mind; and I was happy to be the ostensible leader in the invitation, and to accept the leadership of the deputation[1]..."

[1] The deputation consisted of Professor Sedgwick, Professor Adams, Mr Babington, and Professor Liveing.

To the same.

1861. Æt. 76.

April 1st, 1861.

"...I am, thank God, far better than I was. My cold is almost gone—perhaps I might say quite gone. But sleepless nights, ill-temper, and a tendency to giddiness are the attendants of my present life—and ugly companions they are. Yesterday I preached in Chapel, and I had a very attentive congregation. When the service was over, I was very much fatigued; but I recovered after a long rest in my arm-chair, and dined in Hall. I had not dined there for several weeks. I also attended evening Chapel. Handel's famous Easter anthem was sung, but the present state of my ears sadly spoils my enjoyment of such noble music...."

We must now say a few words respecting the American Sedgwicks. In or about 1635 a certain Robert Sedgwick emigrated to the United States. He had been in the English army, and soon exhibited such military talents in organizing the troops at Charleston, Massachusetts, and in conducting an expedition against the French, that he was promoted by Cromwell to be one of the commissioners for the government of Jamaica, where he died in 1656[1]. His widow returned to England, but one at least of his sons remained in America; and in 1748 we find his great-grandson, Benjamin, settled in Connecticut. Through his sons, Theodore and John, the family divided into two branches. "Theodore was a man of great eminence in the legal profession, and of high standing as a public man—a member of each House of Congress, and Speaker of the House of Representatives. For the last ten years of his life, which terminated in February, 1813, he was a Judge of the Supreme Court of Massachusetts[2]." Sedgwick's first

[1] *A Genealogical Dictionary of the first settlers of New England*, by James Savage, 4 vols. 8vo. Boston, 1862: article *Sedgwick*. See also *History of Charleston, Mass.* By Rich. Frothingham, Jr. 8vo. Charleston and Boston, 1845, pp. 135—139.

[2] From C. F. Sedgwick, 24 September, 1845.

1861. Æt. 76. acquaintance in the family was his son, also named Theodore, brother to Catharine Sedgwick, the well-known authoress. He came to England in 1837, and visited Sedgwick, but no record of the meeting has been preserved.

The regular correspondence began in 1839, with a letter from a representative of the other branch, Charles F. Sedgwick, commonly called General Sedgwick, because he had held a commission as Major-General in the militia of Connecticut, grandson to the above-mentioned John Sedgwick. He was fond of antiquarian pursuits, and asked some questions about the origin of the family. Sedgwick's reply was shewn to his correspondent's cousins, and they in turn desired to become better acquainted with the writer. "Our whole family here," the General wrote, "is exceedingly clannish. We are few in number, and we all entertain very strong feelings of attachment and affection for each other, and for all in your country who bear the name. I have shewn your letters to Miss Sedgwick, and she appeared to receive the commendatory notice which you took of her works as coming from a *brother*, whose good opinion she most highly prized[1]." The General's youngest son, born in 1845, was called Robert Adam, "the first name in honour of the common progenitor of our family, and the other in testimony of our high respect for Professor Sedgwick[2]."

The correspondence, begun as above stated in 1839, was continued in annual letters, by which the writers were made acquainted with the details of each other's family history, daily life, and opinions on political and social questions. In fact, Sedgwick became as intimate with the General, and to a certain extent with Miss Sedgwick also, as people can become who never meet. He resisted all efforts to persuade him to cross the Atlantic, though nearly every letter contains a pressing invitation, and promise of a warm welcome. "Were I a man of fortune and leisure," he wrote

[1] From General Sedgwick, 3 May, 1845. [2] Ibid.

to Miss Sedgwick in 1853, "I should not long hesitate in responding in person to such kind words—nothing doubting about my welcome in your hospitable land; and I should like to see, in its youth, that country which bids fair to become the most powerful confederation of free men upon the whole face of the earth. But for the great moral blot in your Southern States, your giant strength would, in a very few years, out-match any European combination that could be brought against it. Your national sins are your national weakness; and 'tis well that it is so ordered. Were it not so, how could we say that in the physical and moral laws of nature, God had shewn Himself a moral governor of the world, and a hater of sin? But for this one dismal blot the United States would very, very soon, be far too strong for the nations of the old world." 1861. Æt. 76.

In the spring of 1861 Miss Sedgwick wrote to say that her grandniece, Miss Susan Ridley Sedgwick, granddaughter of her brother Theodore, was about to visit England with her aunt, Miss Ashburner. Theodore Sedgwick had married a Miss Ridley, who claimed to be of the same stock as the martyr-Bishop. There was therefore a double reason for the visit to Cambridge, to see her cousin, and her ancestor's college, portrait, etc. Sedgwick was out of health and in bad spirits, but he promptly wrote and begged them to come; and when the visit took place he exerted himself to the utmost to shew them Cambridge and Ely. A few days afterwards he wrote: "I think it a very great gain that whenever I may hereafter write to any of my American friends whom I have never seen I may think of you whom I have seen; and that will give a better life to my letters. For I think of you now, and I hope to do so as long as my old age is lengthened out, as my dear friend and my sweet American cousin. May God ever love and bless you[1]!" Some months later Miss Sedgwick sent him the following letter:

[1] To Miss S. R. Sedgwick, 1 April, 1861.

1861. STOCKBRIDGE, *November 19th*, 1861.

Æt. 76. My dear and honoured cousin and friend,

It is a long time since I have had any direct communication with you, and yet I rejoice in believing that during the past year our relations have been most pleasantly extended, and our sympathies multiplied. Your name has become more familiar in our households since my friend Anne Ashburner and my dear niece have entered into the circle of your family lovers. They cherish the most happy and grateful memories of their visit to you, and my sister, Susan's grandmother, begs me to repeat her sense of your kindness....You have made us all love you.

We have been gratified by the warm interest you have expressed in the condition of our country. We could not doubt that you felt it, but we have been so much surprised and disappointed by the general tone of English sentiment in relation to us that our faith in our Anglo-Saxon kindred has been a good deal disturbed. And what most amazes us is the ignorance of our government that is betrayed in the declaration, constantly repeated, that we are fighting for nothing....We had fondly thought—some of us—that no English head could fail to comprehend, no English heart be slow to feel, the necessity of supporting such a government as ours, and maintaining the glorious institutions bequeathed to us by our fathers. And that we did understand and value them is well proven by the uprising of the North, banded together as one man....

A relative of yours—not your correspondent but his nephew—commands a brigade in M^c^Lellans army. He was trained a soldier, was in the Mexican service, and is said to be one of our very best generals[1]. A nephew of mine, a son of my beloved brother Charles, is his aid[2]. It pleases me that in any emergency they will stand shoulder to shoulder, for both are true-hearted, and kindred-loving men....

But I leave this all-absorbing subject to tell you how desirous we are to hear of your welfare—that you keep gout and dizziness at bay—and how grateful we are for every particular of your domestic life and enjoyment. My love to all my dear cousins, and tell them to believe the good northern stock will show blood! God bless and preserve you.

Yours gratefully and affectionately,

C. M. SEDGWICK.

To Mrs Barnard (Miss Henslow).

CAMBRIDGE, *April 18th*, 1861.

My dearest Annie,

I am again forgetting that you are not now a

[1] General John Sedgwick, killed at the battle of Spottsylvania, in May, 1864. His character and military distinctions are stated at length in *Personal Memoirs of U. S. Grant*, 2 vols. 8vo. New York, 1886, ii. 220, 540.

[2] William Dwight Sedgwick, wounded at the battle of Antietam, 17 September, 1862, died 29 September. A life of him is given in *Harvard Memorial Biographies*, 2 vols. 8vo. Cambridge (Mass.), 1867, i. 167—176.

child, but a wife and a mamma. May God bless you and all whom you best love! My old hand so shakes that I can hardly hold my pen, and Dr Paget has commanded me again and again to *write no letters*. So I must be short; and I shall have the double pleasure of writing to my dear god-daughter, and of breaking the doctor's orders. 1861. Æt. 76.

On Saturday last I went to see your dear father. He was calm, resigned, and quite happy. Though under bodily suffering he was full of peace and love. I never saw and conversed with a human being (and I have watched some pious Christian death-beds) whose soul was nearer heaven. He sometimes prayed, he said, to be set at liberty, but not, he hoped, impatiently; and he constantly prayed that his God and Saviour would support him in his last moments. I often repeat, he added, the words of our *Burial Service:* 'Suffer me not, in my last hour, for any pain of death, to fall from thee.' Though emaciated, and with a white beard (for they do not tease him with shaving), he looks like himself. He has his own sweet natural expression. His looks are the looks of hope and peace and Christian love. When I first saw him I was not shocked, because he looked so calm and happy; but I was moved and deeply affected, and I stooped down and kissed his cheek, and he grasped my hand and thanked me. He then said to Dr Hooker: 'Interpret for me; my voice is feeble, and Sedgwick is deaf.' So we began in that way for a sentence or two. 'No,' I said, 'we can do better than that.' So I knelt down, and put my face close to his, and he put his right arm round my neck, and in that position we had our loving talk together.

The doctors say there is no hope of recovery whatever; but he is still strong and has not at all the look of a man at the point of death. If I were to trust my *own judgment*, I should say that he might live some weeks yet, and but for the doctors (who ought to know best) I should still have some hopes of his restoration to better health.....

I ate lunch with them below-stairs; and then again I took

1861. Æt. 76. my place on my knees by my beloved friend's bedside[1]. After I had done so he asked your sister to bring a pillow for me to kneel upon. Was not that just like your dear father? I remained almost a quarter of an hour, and then the post-chaise that was to take me to Bury St Edmunds drove to the door. I then took a tender leave of the dear party; and, if your papa's life be lengthened, I mean to go again to see him.

I am suffering by gout, and by attacks of giddiness. This day week when my man came in the morning he found me lying on the floor and unable to rise. The fit came on by a strong dose of over-stimulating gout-medicine which got into my head. Since then Paget has set me almost right again; and now see how I have broken his positive orders! Give my kind remembrances to the Major.

Ever your loving godfather,

A. SEDGWICK.

Sedgwick divided the summer between visits to the seaside, to Yorkshire, and to various friends. Among the latter was the lady whom he had known at Norwich in 1836 as Miss Caroline Clarke[2], and who now had become the wife of Canon Guthrie of Bristol. "I count it as one of the blessings of my old age," he wrote, "that I have been again established as her dear friend and frequent correspondent, after an interruption of a quarter of a century, during full twenty years of which I had lost sight of her, and did not even know her name[3]." The next extract describes her in her new surroundings:

To Mrs Cooper.

DORSET HOUSE, CLIFTON, *July 26th*, 1861.

"...Mrs Guthrie (once the bright, pretty, and rather eccentric Caroline Clarke of Norwich) is, and long has been, one

[1] In another account of this visit Sedgwick says: "I declare that while kneeling by his bedside with his arm clasped round my neck I felt as if I had been in the presence of an angel." Henslow lingered for nearly a month after this visit. He died 16 May, 1861.

[2] Vol. I. pp. 453—457.

[3] To Miss Fanny Hicks, 22 December, 1862.

of the best and most benevolent of womankind. She is still (though no longer young) lively, winning in manner, and of a very agreeable countenance. She is very clever; has a wonderful administrative skill; and a benevolence that leads her to devote a large fortune, and all the powers of her bodily frame, to the good and relief of her suffering fellow-creatures. I visited her institutions at Calne—infant-schools, boys and girls schools; young women's schools of domestic economy (such as cooking, washing, and doing work to fit them to be wives or servants); hospitals, etc. And in a day or two I hope to go over the great hospital at Bristol where she superintends the nursing. For practical good I never knew her match...." 1861. Æt. 76.

In September Sedgwick attended the meeting of the British Association at Manchester. He was one of the Vice Presidents of the Geological Section, of which Murchison was President. The occasion seemed propitious for bringing about some sort of reconciliation. "But what did he do?" writes Murchison to Whewell; "whilst I made every effort to induce him to attend the Geological Section, to which I read a discourse so prepared that I really thought it would greatly tend to propitiate him, he never came but once, for a short time, and made a point of attending the Geographical regularly!" In the course of one of the discussions Murchison quoted the Geological Surveyors as on his side. Sedgwick replied, very excitedly: "Of course they are. They have been badly instructed and badly led, and it is no wonder that they have adopted your erroneous views."

In the Michaelmas term he began his lectures with every intention to go through with them as usual, though at times he despaired of his ability. But he had overestimated his strength. "I gave my opening lecture," he writes, "but it was too much for me. Then for more than a fortnight my assistant in the Museum lectured for me." Under these circumstances he returned to his former resolution to resign.

1861. Æt. 76. *To Miss Isabella Sedgwick.*

CAMBRIDGE, *November 10th*, 1861.

"...I finished my lectures yesterday; and gave the *last* I shall *ever give* as Woodwardian Professor. The thought was sorrowful; but I have had warnings plenty, and it is time for me to strike after a service of nearly forty-four years. I had a large audience; and when I sat down I was greeted by loud and long-continued hearty cheers[1]. So far so good.

Romilly comes every morning before breakfast to help me with my letters. He is the oldest friend I have in Cambridge, and the kindest. He has a great deal of French blood in his veins, which makes him a merry, genial, man; and to such natural gifts he has added a vast store of literature; and, better still, he has a heart filled with Christian love, and cheered with Christian hope. He is in many respects more infirm than I am. Indeed, were it not for my head, I should be now a strong man for my years. 'Tis strange, but writing an off-hand letter like this tires my head far more than lecturing."

To the same.

Sunday Evening, *December 15th*, 1861.

"Before this reaches you, you will have heard the melancholy news which will fill the heart of every good Englishman with sorrow. The wise, the good Prince Albert is gone. So fleeting are all earthly joys! So fades all earthly glory! It did seem strange to-day to hear the well-known prayers repeated without the sound of Prince Albert's name. He was, I believe, wise and good in a position of great difficulty. God's will be done! but I am very sorrowful, and have often had my eyes filled with tears...."

To the same.

CAMBRIDGE, *February 7th*, 1862.

"...The day before yesterday a railway porter tapped at my door with a parcel in the shape of a large roll neatly

[1] Mr Romilly records (9 December): "Went to Sedgwick's concluding lecture. He was in great force, but his feelings rather overcame him in taking leave. This lecture lasted nearly two hours."

packed in glazed black leather. After taking off the cover I saw a sheet with a very broad black border, and inside of it were these words: 'By Command of Her Majesty the Queen. *In Memoriam.* Osborne, January, 1862.' And then followed two large lithographic drawings of the Queen and Prince Albert—that of the Prince a most excellent likeness. When I had gazed at those two portraits, side by side, for a few seconds, I sat down and wept like a child. I do not think, my darling, that you will be surprised at this. We are bound to love and honour our Sovereign; and were she not our Queen we should naturally love and honour any woman of such beautiful, loving, and consistent, domestic life. And more than all this she is now weighed down by the most grievous domestic affliction that could befall a tender-hearted woman. And what a glorious example the Prince set to all right-minded Englishmen! He was a man of an astonishing range of information. On the subjects he had handled (and there were few subjects of literary, scientific, artistic, and economical interest which he had not studied well) he was never superficial. His knowledge was not merely extensive, but profound. He had almost incredible industry; and I have often remarked that wherever he was he was sure to be gaining information. And with all such powers he, by God's grace and gift, united great benevolence, and wisdom, and love of truth. And to all these gifts he added sweet manners and a noble presence. He was called proud and reserved. I never found him so. He always treated me as if I were his equal; and encouraged me to speak frankly to him, just as if he had been my personal friend and equal...." 1862. Æt. 77.

A week later Sedgwick proposed one of the resolutions at a meeting held in the hall of Queens' College (14 Februa~~r~~y) for the purpose of considering the erection in Cambridge of some appropriate memorial to the late Chancellor. He was ill, and "in terror of a fit of giddiness;" but we remember that he spoke with eloquence and deep feeling, and made a

1862. Æt. 77. profound impression on his hearers by recounting, in his most graphic and picturesque style, a number of details about the Prince which he had observed during his frequent interviews with him. The speech was, in fact, an amplification of the last letter.

To General Sedgwick.

February 21st, 1862.

"...You complain, it may be with reason, of our Press. But is your Press to escape without remark or censure? I have, within the last five or six months, read frequent extracts from your journals, and many of them have been written in a temper which seemed to me perfectly demoniacal and frantic. I *do admire* the spirit which has led the Northern States to turn out their whole national strength in vindication of what they believe to be their country's rights. I know of nothing like it in modern history except the tremendous strength put forth in the early days of the French Republic. It was at first defensive, and so far as it was defensive, it was, I think glorious. It then became fiercely aggressive under the mask of liberty, and soon passed into a despotism. The course was natural, if we are to trust the teaching of history. God grant that our cousins in America may not founder on this rock! I often thought, before the civil war began, that the fierce, intolerant, vainglorious, ravings of your ultra-democratic press, were a prelude to a decay of true rational and enduring liberty. In regard to the ultimate event of the war, I am not so vain as to enter on any speculation. I did expect when the contest between the Northern and Southern States began, that the Northern States would bear down the Southern without any difficulty—that they would proclaim, if not *immediate*, at least *prospective freedom* to the slave population—and that they would begin by abrogating all laws which recognize slaves as permanent property—to be maintained, now and prospectively, as a national institution. But you have cast away

this vast advantage (moral as well as physical) to the dogs. 1862.
Your statesmen recalled Fremont (regarded by us as a man Æt. 77.
of wisdom, courage, and high principle); you have been committed to the maintenance of the degrading cruel institution of domestic slavery, and thereby thrown a dark shade over the brightness of your great country. With such facts before them, good Englishmen find it hard to believe that the Northern States are God's noble champions in the cause of rational liberty and Christian freedom; and I know many sober-minded men who *contend* (and I think, *believe*) that the mitigation of the evils of slavery, and its ultimate abolition, would be more speedily secured by the victory of the Southern States rather than by the triumph of the Northern. You may call this paradoxical; and I am not now stating my own opinions, but it is upheld by very plausible arguments I can hardly so much as allude to. If you trample down the Confederate States, and keep a promise to which your government is formally pledged, we shall then see a mighty Republic, with a vast military strength, with slavery as one of its accepted institutions, and with a spirit of aggressiveness which may and will lead it to trample over its neighbours' rights, and to spread domestic slavery over the lands of Christian freedom..."

To Miss Isabella Sedgwick.

CAMBRIDGE, *March 12th*, 1862.

"...This morning came Edleston[1] and told me that Fisher[2] breathed his last yesterday. The news did not surprise me; but it is a solemn thing to hear that one with whom we have lived familiarly, and spent many pleasant and social hours, has been called away. Few, very few, of my old friends are now left. But God has been very merciful to me, and I still have a heart to feel brotherly love, and to rejoice in the society of generations below my antiquated date...."

[1] Rev. Joseph Edleston, one of the Senior Fellows of Trinity College, now Vicar of Gainford.

[2] Rev. John Hutton Fisher, B.A. 1818, Fellow of Trinity College and Vicar of Kirkby Lonsdale.

1862. Æt. 77. The next letter is of value as showing Sedgwick's kind interest in young people. The writer, then senior boy at Rossall School[1], having heard a rumour that Sedgwick was staying at the neighbouring town of Blackpool, had asked him to pay a visit to the school, with a broad hint that he might perhaps get a half-holiday granted to the boys in honour of the occasion. Sedgwick not only answered the boy's letter; but wrote to the head-master and obtained the desired half-holiday.

To John Amphlett Evans, Esq.

CAMBRIDGE, *February 26th*, 1862.

Dear Sir,

I could not reply to your kind note before this evening, as I only received it by this morning's post. I have not been at Blackpool this winter, or any nearer to it than I am at this moment. But I am glad the mistake was made, as it has procured me the pleasure and amusement of reading your letter of last Saturday. I most heartily sympathise with you all, and right glad I should be if I could procure you a joyful and happy holiday. And why should not this wish, recorded in writing, and sent by the post, be as effectual as a similar wish rising from the heart, and expressed by the lips? But alas! it is far easier, in many cases, to ask questions than to answer them. This question is so difficult that it requires a Master's mind to settle it satisfactorily.

You have obtained an honourable position in the excellent school of Rossall; and I trust that your whole course of life will be in conformity with such a good beginning. Labour is the condition of humanity; whatever you do (so long as it is right and virtuous) do it with all your heart. Be active in play, and be strenuous in study. Half the mischiefs in life arise out of lounging and listlessness. In such a temper the bad and insubordinate passions are sure to germinate.

[1] Sedgwick had visited Rossall School on a public occasion, and had spoken of it in very enthusiastic language.

My servant is waiting to carry this note to the post. So I must conclude, with good wishes to you, and all your brother-students. By asking a favour of me you have treated me as a friend; and I have answered you in like spirit. 1862. Æt. 77.

Very faithfully yours,

A. SEDGWICK.

To Dean Trench.

CAMBRIDGE, *April 21st*, 1862.

My dear Mr Dean,

I should do wrong if I asked you to answer this letter, for at this time letters must be falling around you like autumnal leaves. Letter-writing fatigues me, and often disturbs my head, which is liable to very distressing attacks of giddiness; but I cannot help writing to you now to express my heart's thanks for the happiness you have given me by publishing the *Remains* and *Letters*[1] of your dear mother. I never had the honour and blessing of knowing her. Till the little publication from her journals, which you so kindly sent me last year, I had never heard of her. But from this time forward, and so long as old England has a good name among the nations of the earth, she will take her place as one of the most honoured daughters of our island, and be cherished in the heart and remembrance of tens of thousands. Yours must be a goodly triumph, or rather a holy joy, thus to bring the memory of your beloved mother before the world; through her works to bring her again before us; to teach us lessons of taste, and love, and daily wisdom; to make her our sweetest and best instructor. I only speak the truth when I say, that, since the old bright days when I was driven almost wild by the early works of Walter Scott, I have not received such joy as I found while I was reading through your volume. It gave me a kind of new life; and (spite of old age, and the long weary drag of spring gout, and sleepless nights, and a torpid brain)

[1] *The Remains of the late Mrs Richard Trench, being Selections from her Journals, Letters, and other Papers*, 8vo. London, 1862.

1862. Æt. 77. I went on with it, with senses as wide awake as in my youthful days; and with new springing delights, which never tired, but became the stronger in each succeeding page. The exquisite, elastic, woman's step; the careless colloquial charms; the nice taste; the speaking pictures; the kindness; the wisdom; the exquisite *sauce piquante*, kept down by good taste, and not offending against the law of love; the visions of fireside happiness; the blessings of domestic love, all radiant in sunshine; the clouds of sorrow; little Fred and Bessie glowing like Raphael's angels on the canvass, and then shut out from the mother's sight by a dark cloud with which God enshrouded them;—such, I need not tell you, were the visions conjured up by your late mother's magical pen. Many passages I read with earnest attention; many made me laugh with a right happy heart's movement. And there were some, written in the simplicity of maternal sorrow, which affected me with deep emotion; yes, and made me glad to find that the fountain-head of kind feeling is not yet dried up within me. Again, it was to me a great charm to have described from sight, and by such a delicate, and most graphic, woman's pen, some of the persons whose frown made nations tremble, and whose deeds rang in my schoolboy ears as if the actors had been creatures of another world. There is another charm which must make the volume a double treasure to the hearts of those who are most near and dear to you. Your mother never was tainted by infidelity; but while, in her days of youthful beauty, she was carried round in a whirl of gay engagements, she probably thought little of religion beyond the decency of its external forms. But sorrow was her teacher. There are, I think, several passages where she alludes to the great good to be drawn from such lessons. Whatever may have been the lessons, she, by God's grace, learnt to profit by them, and there is a mellowness and sanctity of character in the productions of her later years, which (in addition to their extraordinary nicety of judgment and brightness of taste) must make them very precious to you. Perhaps I am wrong

in troubling you at such length; but I think you will forgive me if you do me the bare justice of believing that I am writing honestly; and you will pardon the garrulity when you remember that I am now working my way through my seventy-eighth year...I must now needs stop for want of room. With heartfelt good wishes and honest congratulations I remain, my dear Dean, truly and gratefully yours, 1862. Æt. 77.

A. SEDGWICK.

From the Dean of Westminster.

WESTMINSTER, *April 24th*, 1862.

My dear Professor Sedgwick,

I cannot say to you, how much delight your delight in my dear mother's book gave me. Of all the letters which I have received about it, and they have been many, there has not been one which has given me at all so much pleasure, except perhaps an enthusiastic one from kind old Lord Lansdowne, and, as his dwelt more on the literary charms of the book than on those higher [qualities] which you have found in it, even that must give place to yours. I indeed heartily thank you for your words of sympathy and approval.

The preparation of the work cost me many many anxious hours —whether I was keeping back too much, or laying bare too much— but such words as yours give me assurance that in the latter respect, at any rate, I have not exceeded, and I receive them with deep and heart-felt pleasure.

Believe me ever, dear Professor Sedgwick,

Your very faithful and obliged,

R. C. TRENCH.

To the Master of Trinity College.

DENT, *May 16th*, 1862.

My dear Master,

...I am unhappy about the office I now fill. I ought not to fill any office of which I do not perform the duties. I have frequently mentioned this before. Martin[1] never grudged to do my duties; but, now that he is no longer Bursar, he would, if the College authorities appointed him, fill the office of Vice-Master admirably—no longer as an act of good-will, but of personal right. I mentioned this to him, and he said that I had, at any rate, better continue

[1] Rev. Francis Martin, B.A. 1824, one of the Senior Fellows of Trinity College.

1862. Æt. 77. to hold the office till the meeting of the British Association was over. On the whole, considering the lingering infirmities of my head, I shall be much better (should I attend the meeting) without the responsibility of any official duties; and I shall consider it as personally kind to me, if you will declare my office vacant....

Ever truly yours,

A. SEDGWICK.

In May Sedgwick was summoned to Yorkshire by the serious illness of his niece. When she was well enough to be moved he went with her and her mother to Blackpool on the Lancashire coast—a watering-place which he always thoroughly enjoyed. There she slowly recovered, and he also submitted to medical treatment, though he protested that his "old, hypochondriacal, half-gouty, half-crazy system," was almost beyond the reach of medicine. Under these circumstances he felt compelled to forego the pleasure of seeing the Duke of Devonshire—whose election as Chancellor he had done all in his power to promote—preside at the Public Commencement in June. "With much reluctance," he wrote to Dr Whewell, "with much sorrow, I am compelled to consider myself unfit for the meeting." He remained at Blackpool until he received the Queen's commands to visit her at Windsor.

To the Master of Trinity College.

BLACKPOOL, *June 17th*, 1862.

"...I went to Windsor Castle last Thursday, and had a long and most touching interview with the Queen. I came away most deeply impressed by the solemnity, I ought to say sanctity, of her sorrow; by her beautiful self-possession; by her large views of her duties; by the great expansion of her love and good-will to her fellow-creatures and subjects; and by the firmness of her faith. She said that she wished to see me again on Friday, before I left the Castle: but she was, that morning, ill and out of spirits—so General Grey told me. She told the Princess Alice to meet me, and she wished me

to see her two youngest boys. You will believe me when I say that I was very deeply touched and moved by the interview...." 1862. Æt. 77.

On Sedgwick's first appearance in Cambridge after this interview a lady said to him: "You have been to Court, Professor, since I saw you last." "No Madam," he replied, "I have *not* been to Court; I have been to see a Christian woman in her affliction."

To the same.

NORWICH, *September 23rd*, 1862.

My dear Master,

Your letter requires an early reply. I thank you heartily for its kind expressions, but the opinion I have so deliberately formed is not shaken. I wish to resign the office of Vice-Master because I know that I am unfit for the place. My frequent infirmity of health very often prevents me, absolutely, from doing its duties. When I attend in Hall and the Combination Room I am often so deaf that I cannot join in the conversation, without inflicting misery on my next neighbour; and the attendance in the Combination Room very often worries my nerves and makes me ill. I have *no right*—this is a conviction of my conscience—to receive the emoluments, and to have the honour of an office of which I know that I cannot do the duties as they ought to be done. Now that I am working my way through the eighth year of my eighth decade, there is no shadow of hope that during the remnant of life, whatever it may be, I shall be better able to do my duties to the College than I have done them during the past years, while many infirmities of mind and body have been gathering round me. With all good will to the College, and the blessing of a grateful heart on the Master and all my brother-Fellows, I must beg leave to resign the office of Vice-Master. I remain, my dear Master,

Ever truly yours,

A. SEDGWICK.

1862. Æt. 77. The British Association met at Cambridge in the first week of October. Sedgwick's letters shew that his interest in its proceedings was as keen as ever, though his bodily infirmities would not allow him to play more than a subordinate part in them. "On Thursday," he writes, "I was very gouty; but I attended the sections. I did not attend the evening meeting. On Friday I was better. Joined in the discussions. A great dinner in our Hall, at which I was called on twice to speak. Yesterday (partly to avoid my friends) I went to Ely with Sir Charles and Lady Bunbury, and a large party of Professor Kingsley's friends. On my return remained quietly in my own room much fatigued[1]." After this he did not again appear in public, though he received his friends at home with his usual genial hospitality.

Early in October he formally resigned the office of Vice-Master of Trinity College.

[1] To Miss Isabella Sedgwick, 5 October, 1862.

CHAPTER VI.

(1863—1869.)

RECEIVES COPLEY MEDAL OF ROYAL SOCIETY (1863). ROYAL VISIT TO CAMBRIDGE. DEATH OF MR ROMILLY (1864). FOUNDATION OF SEDGWICK PRIZE. SYMPTOMS OF HEART-DISEASE. VISIT FROM DR LIVINGSTONE (1865). AMERICAN LECTURESHIP. DEATH OF WHEWELL. HONORARY DEGREE AT CAMBRIDGE (1866). TOUR IN WEST OF ENGLAND (1867). MEMORIAL BY THE TRUSTEES OF COWGILL CHAPEL. FIFTIETH COURSE OF LECTURES (1868). DEATH OF LADY MURCHISON (1869).

THE last years of a life protracted to so great a length as Sedgwick's are naturally devoid of stirring incident. At the same time no one who wishes to understand his character should pass them over hastily; for they exhibit, more clearly than any other part of his life, the tenderness of his affections, his unselfish generosity, and the firmness of his faith. In a certain sense the load of years sat lightly upon him, for though he had frequent attacks of severe illness, his mind remained clear and vigorous to the last, and, as he often admitted, he was a strong man for his years, at least till after the severe illness in the spring of 1870. Still, he was always more or less of an invalid, and rarely out of the hands of doctors. "While they try to cure one part of my old, nearly worn-out machinery," he said in 1866, "they damage another. 'Tis something like putting new wine into old bottles; or like the work of a tinker who in patching an old

1863. Æt. 78. kettle produces two rents in the place of the old one." The least imprudence was sure to bring on one of the numerous ailments which had been his constant companions throughout life; and when, in addition to these, disease of the heart supervened, the greatest caution became imperative. "While I am quiet I am well," he wrote in 1865, in answer to a request to attend a diocesan congress, "but I can bear no excitement. People may think me shabby to keep away. Those who know me best will allow for my age and infirmities, and think me right. When I appear in public they expect me to take a public part, which I formerly delighted to do, but which now I cannot do to any useful purpose, and certainly to my personal risk, if done at all." This necessity for the utmost caution, as well as increasing deafness, shut him out from general society; and, while at Cambridge, he lived during the last four or five years of his life almost alone. The intimate friends of his earlier days had preceded him to the grave, and to the younger generation of Fellows he had become little more than a venerated name.

His resignation of the office of Vice-Master had relieved him of his most onerous College duty; but he continued to attend the meetings of the Master and Seniors, and occasionally, especially in summer, dined in Hall. He drank no wine himself, but he took pleasure in coming to the combination-room, where he sipped his coffee and told stories of bygone days. "I do like to see people drink good wine;" he has been heard to say, "though I have no share in it; and I will sit here while you drink a hogshead!"

His academic duties, on the other hand, he performed as efficiently as his strength would permit, almost to the last. He often talked of resignation, and as often deferred it. It would have broken his heart to feel himself a stranger in a place which he had himself enriched with its most valued treasures; so he continued (till 1871) to lecture regularly, and to superintend assistants, whom he employed, at his own cost, to do certain definite pieces of work. "I mention

this," he says in one of his *Reports*, "not by way of *boasting;* but rather as my *apology* for retaining a Professorship at a time of life when the infirmities of age make me incapable of performing some of its laborious duties." 1862. Æt. 77.

At Norwich he found a life which was far more congenial to him than the enforced solitude of Trinity College. During his terms of Residence he could always ensure the presence of some members of his family; and he took the most affectionate interest in his nephew's children. Their father, soon after his removal to Dent, had become an invalid, and Sedgwick took upon himself the care of his entire family. He once described himself as "an old monk, with a petrified heart, and an empty head," but when the instincts of paternity had been developed by his self-imposed duties, no father could have shewn more practical wisdom in the bringing up of children, or taken greater pleasure in it. "I expect a sudden flush of health and happiness will come to me," he wrote in 1871, "like blossoms in winter, when my niece Isabella and two grand-nieces come to see me[1]." Norwich too was always hallowed in Sedgwick's eyes by recollections of his earliest friends there. When Mrs Stanley—widow of the Bishop—died in the spring of 1862, he wrote to Archdeacon Musgrave: "I loved her and all her family; and during the twelve years that Bishop Stanley was at Norwich I lived (while in canonical Residence) almost as much in the Palace as in my own house." In the following letter this feeling is nearly as prominent as that of interest in his children.

To Mrs Vaughan.

NORWICH, *December 31st*, 1862.

"I am sitting in the study-chair of your father. If you remember, Mrs Stanley gave it me, as a keepsake, before you all left the Palace. When I sit in it I sometimes think of those dear friends who are gone; whom I loved so much, and lived with so much, while they were here....

[1] To Miss Kate Malcolm, 31 July, 1872.

1863. Æt. 78. A little after seven I take a hot cup of coffee to Maribell[1], and if she have not risen before, I sit by her bed-side while she drinks it—having first put some warm things over her neck and shoulders. About twenty minutes before eight she comes to my room—we talk together, and say our prayers together, and these twenty minutes are, I declare, the happiest of the whole day. At eight o'clock a music-lesson from one of Dr Buck's assistants. This is sure to be well done; because the child has made good progress, and loves the work well. At nine, breakfast, after family prayers. We dine a little before two. As to all the other hours of the day, they are too irregular to admit of count or description. Calling on friends; shoppings; drives; walks; the wild beasts on Castle Hill; nondescript Christmas shows; picture-galleries; etc. etc. help to fill up each day—to the infinite joy of the two children, and sometimes to my bodily fatigue. We give and take lunch-parties, and occasional tea-parties. And, if I can keep bronchitis off my chest, I shall give my party a run to Lowestoft and Yarmouth. And perhaps I may some day show Addie how to fire a squib, and fly a rocket....

All that Arthur writes I read with intense interest; and before long I hope to devour his volumes on the Jewish Church....How does he stand towards the authors of *Essays and Reviews?...*"

In the first days of 1863 Sedgwick received, through Mrs Bruce, a copy of *The Speeches and Addresses of H.R.H. the Prince Consort.* The book was, in fact, a present from the Queen, who had written in it his name and a touching inscription.

To the Honourable Mrs Bruce.

NORWICH, *January 9th*, 1863.

My dear Mrs Bruce,

. .It is not in the language of formal courtesy, but in the honest words of a loyal and a grateful heart, that I

[1] Eldest daughter of Rev. Richard Sedgwick.

wish to thank Her Majesty. From my childhood I was taught by my father to 'fear God and honour the King.' This sentiment never left me; and with all true-hearted Englishmen the sentiment became doubly strong when God was pleased to place a young Queen upon the throne, whom we were constrained to love and honour by every bond of duty and affection. 1863. Æt. 78.

Many proofs of condescending kindness I have experienced from our beloved Queen; and last summer I had the honour—or rather I would call it the high and holy privilege—of conversing freely with her on the subject of those grievous sorrows that God had brought upon her by removing from her side the great and good Prince Consort. The remembrance of that audience, and the thoughts that spring out of it, are often present with me in the House of God, and still more are they with me when I bend my knees in private, and ask Him to bless our Sovereign. Do therefore, dear Mrs Bruce, express to Her Majesty, in a few earnest and simple words—the simpler the better—my heart's true thanks, and my prayer that God may give her comfort, and shed His best and holiest blessings upon her, and all whom she loves....

Ever faithfully and gratefully yours,

A. SEDGWICK.

To Mrs Norton.

TRINITY COLLEGE, CAMBRIDGE, *March 20th*, 1863.

My dear Mrs Norton,

The sight of your letter has greatly cheered me. I believed that your address was changed since I last wrote to you as my dear young cousin (Miss Susan Ridley Sedgwick); but I did not even know by what name to write to you, nor did I know that you were still at the Cambridge of the New World. May God bless you, and make you happy as a married woman[1]; and long may He preserve you, so that

[1] Miss Sedgwick had married, in 1862, Charles Eliot Norton, Professor of Fine Art at Harvard.

1863. Æt. 78. you may see the bright happy faces of your children's children. I also send my kind Christian greetings to Mr Norton, and to the dear old lady, your grandmamma, who did me the honour to write to me, and to Miss Ashburner—in one word, to all whom you love, and that includes, I trust, a very large number. There is one sentence in your kind letter which makes me very happy; for it gives me the hope of seeing you again at the older Cambridge, and of having an opportunity of giving a welcome to Mr Norton.

On the 22nd of this month, I shall have completed my seventy-eighth year; and seventy-eight such eventful years! I well remember the breaking up of the old Monarchy of France; the death of Louis XVI.; the Reign of Terror; the excitement which reached every nook and corner of this island; the early struggles for the abolition of the slave-trade. These things stand out among the remembrances of my early boyhood. Then followed the rise of Napoleon; the falling down of kingdoms; the threats of invasion; the phantasm of old England's doom, and of a despotic empire which was to be built over the graves of national liberty, and Christian freedom. Then came the great providential change,—a victory gained over a gigantic military despotism—not by the arms of man, but by the powers of nature, which are the might of God's own strength in the workings of His Providence. And the same years tell us, in their history, of the rise of England's most anomalous and portentous display of power in the eastern continent. And during the same years we have seen the rise of England's children in the new world of the far west; first breaking off from the parent stock, and vindicating their national freedom; then with all the energy of their race (and with all the benefits of the political freedom and Christian civilization of Western Europe) starting on a new road towards political strength and national greatness, and advancing on it at a speed unmatched in the past history of man. And the triumphs of science have gone hand in hand with these great world-wide movements; or perhaps it

would be nearer the truth to say, that science has been their main-spring, and living strength. Gas-light, railroads, steam-boats, electric telegraphs, are in my memory but things of yesterday. Years, well remembered, were past in my early life before such things were so much as heard of; and yet how vastly they seem to have changed the whole outer world of civilized Christendom! 1863. Æt. 78.

It was during the period of our summer residence at the sea-side, that I received a letter which summoned me to Windsor Castle, where I had a long private audience of the Queen. It does seem strange to me, when I think of it, but I believe I was the first person, out of her own family, to whom she fully opened her heart, and told of her sorrows. After the first greeting, when I bent one knee and kissed her hand, there was an end of all form, and the dear sorrowing Royal lady talked with me as if I had been her elder brother. After a long interview I left her with the deepest conviction of her good sense, her Christian humility, her faith, and her patriotism. Her great aim is to carry out the intentions of the great and good Prince whom God has removed from her side. 'He had the greatest regard for 'you,' she said, 'and that is why I had a strong desire to 'talk with you without reserve.' Don't accuse me of vanity, above an old man's measure, for writing this. It was assuredly the most remarkable event of my summer's life. Since then she has sent me a beautiful copy of Prince Albert's *Speeches*, with an autograph on the blank leaf, in which she calls herself 'his broken-hearted widow Victoria.'

In Republican America our cousins may have thought us mad for our joy and revelry on the occasion of the Prince of Wales' marriage. It was in truth a burst of loyalty and love for our good, true-hearted, sorrowing Queen; and was it not quite natural to feel joy when the sweet rose of Denmark came amongst us? During all this joy I was in sorrow, and low in health, but I set some merry youthful hearts in movement, and I could fill many sheets, had I time, with an

1863. Æt. 78. account of the humours, and quaint sports, and rural revelry among the mountains of the north of England. The present reign has, so far, been peaceful and prosperous. We have a virtuous court; a Royal household which is a model of Christian love; an executive powerful without any need for stretching the implements of its strength beyond the mildest interpretation of the law. Yet half a million of our people are in deepest suffering from the terrific miseries brought on us by the fratricidal war in North America; but bowing to God's visitation and bearing up against privations with unexampled patience, and without loss of patriotism and loyalty; and we have freedom of speech and action, unrivalled, I believe, in any other nation of the world. Such are the phenomena presented by the old, monarchical, mixed, Christian, government of England; and may God preserve it, both in form and spirit, for ages and ages yet unborn! May the same God of truth and love put an end to the desolating war of our transatlantic cousins! How and by what secondary means that is to be brought about He only can tell; and in His own time we shall know. The war began by acts of treachery and treason. Had you caught the first movers, by the acknowledged laws of civilized Christian men, you might, without blame, have made them end by a dance in mid-air. At first all good hearts were with you, and the general expectation was that the treason of the South would soon be trampled out by the loyal men of the North. But opinions, as to the event, have greatly changed since the war began. It was not the raid of a few self-interested traitors; it was, in fact, the rising of a nation. The struggle became national, and in the death-struggles victory has often inclined to what all men at first called the weaker side. If the South is to be conquered by a "servile war," who can count or measure the horrors of the process? And if the South be conquered and held in bondage, it can only be by an armed peace which will be fatal to the liberties under which you have so soon grown up to a giant strength. I dislike the

temper of your Northern democrats; it is fierce, ambitious, and I believe incompatible with true civil liberty. But I will write no more out of what you may (perhaps justly) call my budget of ignorant old-fashioned prejudices. 1863. Æt. 78.

I remain, my dear Mrs Norton,

Your true-hearted friend and cousin,

A. SEDGWICK.

To the same.

September 7th, 1863.

"...You tell me that we do not understand the motives which animate you in the conduct of the horrible 'fratricidal' war. It may be so. If it had been a war for the abolition of slavery, and the vindication of those natural rights of mankind which were proclaimed among the first principles of your Constitution, all good Englishmen would, I think, have been with you; but it appears to us that the sovereign power, or executive, of the United States has abandoned this great principle ever since the war assumed its deadly character.

But your President has proclaimed freedom to the slave. True! he has done so, as a war-measure; but he leaves the canker of slavery where it was, or makes it worse than it was, by making it a *bonus* to such slave-states as will fight under his colours. I see no prospect of an end to your 'fratricidal' war except as a war of extermination, aggravated by the horrors of servile atrocity....[1]

I say nothing about the conduct of the war, except that it is more savage and more cruel than any great war of modern times. Should you gain your object, it can only be by an extinction of civil liberty (the glory of your Union), and by the virtual establishment of a strong military despotism.

Such are the thoughts of many honest Englishmen, as true lovers of civil freedom, and as sincere haters of slavery, as any man or woman in New England. I can speak for one. I

[1] In the omitted passage Sedgwick states the reasons for a change of feeling in England towards America in nearly the same language he had used in his former letter.

1863. Æt. 78. sucked in a hatred of slavery from my mother's breast, and learnt it at my father's knee; and the lessons of childhood were confirmed and fixed in after-life by the honoured personal friendship of Wilberforce and Clarkson, and many other bright though less glorious spirits. Old England has suffered, and is suffering, greatly. No wonder she should grumble. You talk of war, and you threaten war, and war with England at any cost might gratify the rabid democratic mobs of America. It is quite certain that we are not now aggressive. On every ground of interest and principle we should hate a war; and on the score of humanity we should fear and dread its miseries. I wish with all my heart England could hinder smuggling of the contraband of war, both to the northern and southern states; but no English minister would dare to propose any change of our law to meet the new occasion. I believe our ministers are heartily sick and afraid of our great smugglers, and it is strange that the best vindication of our smuggling acts is drawn from the published decisions of the great American jurists....I verily believe that our public men have acted calmly, and wisely, and with strict practical neutrality, during the frightful contest of the last two years, and the severe sufferings of the manufacturers of this country. But they have no power, like your leading men, to transcend the law....If it be your fate to be held in union as a military despotism, mankind will suffer by it, and you yourselves will be of all sufferers the greatest.

It was a dream of my early life that I might some day settle in North America. I am too old to dream now, and if I were a dreamer I should not feel any longing to be naturalized in a country desolated by civil war. I was in our House of Lords when the old Iron Duke brought in the Bill for Catholic Emancipation. 'I have known much of the miseries of war,' he said, 'and of all war, civil war is the most horrible. This is our alternative: the present Bill, or civil war in Ireland.' I remain, my dear cousin,

Gratefully and affectionately yours, A. SEDGWICK."

In November Sedgwick learnt that the Council of the Royal Society had awarded to him the Copley medal, the highest honour in their power to confer, "for his observations and discoveries in the Geology of the Palæozoic Series of Rocks, and more especially for his determination of the characters of the Devonian System, by observations of the order and superposition of the Killas Rocks and their fossils, in Devonshire[1]." This "very agreeable and unexpected news" gave him much pleasure—a pleasure that was enhanced when he learnt that the award had been suggested in the first instance by his old friend Sir Philip Egerton, actively promoted by Professor Owen, and carried against so distinguished a competitor as Mr Darwin. "That this well-earned recognition has been long deferred," wrote Dr Falconer, "I freely admit; but the race is not always to the swift, nor the battle to the strong, and I trust that the Copley Medal will gratify you, at least to a fraction of the extent to which it has gratified all your scientific friends—the geologists and palæontologists more especially. You must admit that the voice of the geologists has had an important share in the decision; and if they have sinned before, is the door of reconciliation to be always closed against them? Within the last ten or twelve years much young blood has been imported into the Geological Society, and that young blood cannot understand why there should be perennial estrangement between it and one of the leading minds which shaped geology into an inductive science." Sedgwick's own feelings will be best understood by a few extracts from his answers to his correspondents: 1863. Æt. 78.

To Dr Hugh Falconer.

CAMBRIDGE, *November 9th*, 1863.

"...Pleasures would be withered things if we could not impart them; and our joys would be but lamp-light in a dungeon if there were no friends to rejoice with us. I do from my heart thank you for your genial and much-

[1] *Proceedings* of the Royal Society, xiii. 31.

1863. Æt. 78. prized congratulations. I cannot describe my mixed feelings of joy and surprise when I received General Sabine's letter on Friday evening. For years I have considered myself on the retired list. The pressure of advancing years and the alarming attacks of giddiness which many times during three successive years brought me to the ground, drove me from all exciting field-labours, and still more made me incapable of any labour of the closet requiring continued thought. But by a life of systematic idleness; by very early hours; by great temperance, and the avoiding of all external excitements, I am again a strong man—considering that I am passing into the 4th quarter of my 78th year. God willing I shall be up at the anniversary of the Royal Society...."

To Professor Clark.

TRIN. COLL., *November 10th*, 1863.

My dear Clark,

I have had many warm congratulations from my friends in Cambridge on the occasion of the award of the Copley Medal; but your kind note, above all of these greetings, came home to my heart and bosom, and produced the deepest emotion of grateful joy. With my whole soul I thank you for your true-hearted congratulations. The past year has to me been one of much anxiety and domestic sorrow. But a bright gleam of light seems to have pierced the gloom that was about me. We have now entered on our 60th year of academic life. In this long long period I never exchanged a bitter word with you; but I have experienced numberless acts, and words, and looks, of kindness, while we have been striving onward side by side. It is charming now in this evening of my life to be cheered by the kind words of so old and loved a friend. Our sand is nearly run out; I trust that God will forgive and bless us both; and allow us to slide gently out of the world, whenever He may in His secret counsels resolve to call us away. I remain, my dear Clark, affectionately and gratefully yours,

A. SEDGWICK.

To Sir Philip Egerton. 1863. Æt. 78.

CAMBRIDGE, *November 14th*, 1863.

"I have had several very delightful letters since the award of the Copley medal was announced to me. Yours must be put before the rest in my grateful remembrance, for you took the initiative. The knowledge of this fact will make the honour all the more precious to me. It was a very unexpected honour; for I considered myself as quite out of count....For a good many years I was the hardest working-member of the Geological Society, and I never had a geological secret in my life. I have published little, but it is a joy to me in my old age to find that what I have done is thought worthy of such a mark of public honour...."

But of all the letters received on this occasion probably none gave Sedgwick so much pleasure as that of his geological friend and ally, Professor Phillips. "I hope," he wrote, "by a change of my lecture-day to be your henchman on the 30th, and to protect you from assault while you drink of the 'loving-cup,' as we of Yorkshire do."

To Miss Isabella Sedgwick.

CAMBRIDGE, *December 1st*, 1863.

...There was a large meeting [of the Royal Society]—I should think almost two hundred. After the details of audit and other routine matters the President (General Sabine) announced the medals of the year, and then stated the grounds on which the awards had been made. The award of the Copley Medal—the highest honour they had to give—was to Professor Sedgwick. Loud cheers followed from all sides of the room; and then my long services were enumerated with ample praise—far more ample, my dear Isabella, than your old uncle deserves; and may God preserve his old head from vanity, and his heart from self-love![1]...

At six we dined—a party of fifty-five or fifty-six, if I counted right. Some honoured friends of mine were

[1] General Sabine's address—an admirable *resumé* of Sedgwick's geological work—is printed in the Royal Society's *Proceedings*, xiii. 31—35.

1863. Æt. 78. there. I sat between Professor Owen and Dr Falconer.... The President stated, in a short address, that the Copley Medalist must have the first flowers of their greeting, and the first proof of their sympathy, etc. I of course replied, and at considerable length, and with some excitement; for after drinking my health they all rose and gave me three times three cheers. We had no reporters, and I could no more report what I said than the man in the moon. I should have been a cold-hearted dolt, unworthy of such a reception, had I not been greatly moved by it. But there was a solemnity in my happiness from this remark that forced itself upon me: I was not greeted by my dear old friends and fellow-labourers. Hardly one was there. They had been called to their account before me. Many of my loud warm congratulations came from the sons of my dear old friends, who said they came to wish me double joy because their fathers in bygone years had loved me....I was back at my lodgings about ten. John Conybeare—a son of the late Dean of Llandaff—accompanied me to my door...."

One faint echo of his speech has been preserved. He said that "after half a century of labour, the award brought back something of the feelings of youth, and made him feel ready for work again." He was followed by Phillips, who proposed the health of the President, and told how, some forty years before, when he was a beginner in geology, he had come across Sedgwick, riding on a miner's pony—and how they had worked together ever since[1].

To Rev. A. P. Stanley.

NORWICH, *December 27th*, 1863.

My dear Arthur,

I only heard yesterday evening that your marriage took place on Wednesday last. *The Times* comes to me every day, yet I seldom look at the domestic news; but this joyful news was discussed, with many heartfelt good-

[1] *The Reader*, Vol. ii. p. 666. The story is told at length by Phillips himself in *Nature*, 6 February, 1873.

wishes, at the Deanery, where I dined yesterday with a family party. One lady remarked that there had been a fear the marriage ought to be postponed, from the domestic sorrow that had come to the family of the bride. I replied that delay would have been quite wrong, that marriage was the most solemn contract which could be made between God's children, that it had His most holy sanction, and that husband and wife were to be sharers in the sorrows of life, as well as in its joys. Both you and the dear lady whom God hath given to you have tasted sorrow. But the sounds of sorrow may become sweet music to the ear and heart when they are reflected back in softer tones from heaven. I only speak the truth when I say that some of the most lasting and pleasurable emotions of my life arise from the thoughts of those who are gone. But I am an old man, too old to have many dreams about the gilded pageants of this life. You and the dear lady who is now a part of yourself, have, I trust, many, many years of happy useful life before you. Sorrows came early to you both. May the latter half of your lives be very bright and lovely, and as free from all clouds as is compatible with the atmosphere in which we breathe....

1864. Æt. 79.

I asked God to bless you both after I rose; and when I thought of your marriage, I thought at the same time of your father and mother, and brothers and sisters, and of the familiar Christian names by which you were always described by the lips of those who loved you. So I naturally fell into the old address. You are still a Canon, and therefore I do not fear you; but the moment you become a Dean, I shall become more respectful. But Canon or Dean, or whatever you may become, I shall always remain gratefully and affectionately yours, A. SEDGWICK.

To the same.

NORWICH, *January 12th*, 1864.

My dear Mr Dean,

...On my table last night I found a copy of *The Times;* and in one of the columns of the said *Times*

1864. Æt. 79. I found that Arthur Penrhyn Stanley, Doctor of Divinity, &c. &c. had been installed Dean of Westminster. So now, Mr Dean, you have gone leap-frog over my old withered head. I bow to you with all humility, and I trust that in the Deanery you and your lady will live the perfect models of domestic love and happiness. The situation is only one step below the episcopal throne; nay, in your case, you are on the crowning level of your cathedral. I was afraid that your working powers might be absorbed in the worrying details of a diocese; and I was right glad when I heard that you were to be Dean of Westminster. I remember well meeting Bishop Kaye at the Deanery of Bristol in 1820, when he was coming to enter on the dignity of the Episcopate. He had mounted a full-bottomed wig (Bishops in those days had brains to take care of, and did not scud under bare poles as they foolishly do now), and when we shook hands he for a moment lost his dignity in a laugh, which shook the said wig, and made its several hairs uncurl themselves—at least so it seemed to my eyes. I congratulated him on his elevation, which might give an enlarged sphere of honour and usefulness to his literary labours. 'No! no!' he replied, earnestly, 'there is an end of my literary labours. I am now an operative.' I think I am quoting his words correctly. In a certain sense, all good men (yes! and all good women still more) are operatives; and may your sickle long show good service in reaping many a rich literary harvest! grain of that kind, if sound, will last as long as the live corn found in the mummy-cases of Egypt. There is a time for all things; and my working days are over; alas! with little to show, though I am now close upon my 80th year. I have for the last fortnight been reading nursery tales, and poking nursery rhymes out of the old and long undisturbed lurking-places of my memory, and teaching my young people to skate; but I deputed my servant to be posture-master on the ice. 'Tis a shame to pester a Very Reverend Doctor with such nursery gossip. I trust you will accept from me a

happy New Year:—and *you* (now that you are married) has a genuine plural meaning. You must come and see Norwich. I should indeed be proud to show some improvements to you and Lady Augusta. The dear old friends alas! are all gone—excepting one weather-beaten old Professor; but the city, as it now smites the senses, is much improved. But come and see. 1864. Æt. 79.

Ever, Mr Dean, your firm-hearted old friend,

A. SEDGWICK.

To Sir Charles Lyell.

March 13th, 1864.

"...I received the news of Mr Horner's death with much surprise and sorrow, for I had not heard of his illness. He was the last remaining friend of my early geological life. I experienced from him many acts of good-will and kindness, and I associate him in memory with Buckland, Conybeare, Greenough, Fitton, John Taylor, and some others. All are gone, and I am remaining like a dried log, that shews the high-water mark of bygone days...."

To Mrs Barnard.

CAMBRIDGE, *March 20th*, 1864.

My dearest god-daughter,

Indeed I am grateful to you for writing to me....

As for myself, I am in better health than I have been, for several years, during this season of early spring. The infirmities of old age are gradually creeping over me. I am much more deaf than I was when you last saw me, and I have lost nearly all my teeth. But what can you expect from such a weather-beaten old fellow as your god-father?

Of my oldest stock of friends—men nearly of my own standing—only two are left in Cambridge, and I am often compelled to live in solitude. Professor Pryme was several years my senior, but I can no longer count him, as he has ceased to reside in the University. Dr. Clark is still here. He and I were of the same year; but he has become feeble, and is very seldom seen. Last year he had a stroke of para-

1864. Æt. 79. lysis, from which, however, he is wonderfully recovered, and his mind is quite entire and bright. Romilly is still here, but he lives in a house on the outskirts of Cambridge, and never dines in Hall. I now and then go and drink tea with him, when the weather is mild; and then we talk of old days and old friends, and have plenty of old-fashioned gossip. He is as kind and genial as he ever was, but he is very infirm, and is compelled by a disease of the heart to avoid excitement, and to live by strict rules. But if some of your old friends are a little the worse for wear, we have a rising generation full of youthful joys and hopes. And the town is improving. The interior of St Mary's church is now become beautiful, and Golgotha and its wigs are no longer to be seen[1]. All Saints' ugly church will soon be away, replaced by a handsome church which is fast rising in the garden opposite the gates of Jesus College. New Museums and Lecture Rooms are rising up in the old Botanic Garden. The Fellows of St John's will cut us all out. They have swept away one side of a street; and are building a chapel which, when finished, will be the most perfect Gothic structure of our times.

Before I conclude I send you an old man's blessing. May God bless and long preserve you, my dear god-daughter! How different my life is from what it was in by-gone years, when I used to run up to Parker's Piece and drink tea with your dear father and mother, and laugh and play with their children! But still, for one so old, I have many blessings, for which I ought to be thankful. Kiss your children, and tell them I sent the kisses; and give my kind remembrances to Mr Barnard. Ever your true-hearted and loving god-father,

A. SEDGWICK.

To Mrs Hotson.

Sunday Morning, *June 5th*, 1864.

...We have had a glorious festivity, as the papers will tell you far better than I can do. My capacity of enjoyment is

[1] Sedgwick said he would gladly offer himself as a day-labourer to help this good work.

not such as it was fifty years since. But I attended all the public meetings except the ball on Thursday evening. I did attend the ball in Trinity College (it was a point of duty), and I was truly happy in feeling a glow of pleasure reflected from those who were 50 or 60 years younger than myself, and giving themselves up to a whirl of delight and innocent joy... 1864. Æt. 79.

To Miss Isabella Sedgwick.

CAMBRIDGE, *June 6th*, 1864.

"Our festivities went off well, without one single accident or misadventure. Arthur Stanley, I ought to call him Dean, and his pleasant, bright, cheerful wife, Lady Augusta, occupied the rooms next mine, under King Edward's tower. They more than half lived with me, and multitudes of old friends called on me, so that I had no moments to call my own during the days of the Royal Visit. On Thursday [2 June], a little before one, the Prince and Princess arrived. Shoals of ladies came to my rooms to stand at my windows, which looked down upon the pavilion before the Lodge where the Royal party were to assemble to give away the prizes [to the University Volunteers]....Then off and away to the Senate-House. I had a good seat on the platform, so I underwent no fatigue. The reception was everything a heart could wish. The Princess's eyes sparkled with delight when the undergraduates made the room shake with their loud cheers for Denmark.

I thought it my duty that day to dine in Hall, that I might meet many old College friends who had come up to our festivities. I did not go to the ball in the Fitzwilliam Museum, but I saw the rooms before the hour of reception. They were truly magnificent, and the combination of the decorations with the architecture of the hall, and the picture of the ball-room, were of very great beauty.

Friday, as usual, I rose very early. A second quiet breakfast with some friends. Then off to the Senate-House

1864. Æt. 79. to the Degrees. *The Times* gives you no notion of Stanley's hearty reception. He was opposed by a few, perhaps half-a-dozen, voices, but they were instantly overwhelmed by a flood of acclamations, loud and long-continued, such as I have seldom heard before. Lord Palmerston was very loudly cheered. I had a chat with him afterwards, and we agreed that we were the two oldest men in the Senate-House. The lunch, or breakfast, at King's was excellent, and the boat-procession afterwards was beautiful in its way. I then returned through the walks with Dean Stanley and his lady. And what next? I deliberately locked my door, undressed, and went to bed! About a quarter before nine I rose, dressed, and drank a cup of coffee; and at a quarter before ten I went to the Trinity College ball-room, as fresh as a lark. The dancing-platform was a circle about 45 yards in diameter, constructed in the middle of our second, or cloister, court. Over it was a grand tent held up aloft by two poles like masts of a ship. From the great dancing-tent emerged four awnings, or covered passages: one to the carriage-entrance through the four arches between our second and third courts; a second to the space under the Library, where long tables with tea, coffee, ices, etc. were spread; a third into the north cloister; and a fourth, very beautifully decorated, led to the Hall, where supper was prepared. The Hall was splendidly lighted and decorated, and its effect was very striking. The Royal party arrived early, and danced joyfully. Hundreds were dancing at a time on the enormous floor. Room for every one, hoops and all!

During one of the pauses (while the fiddlers were taking breath) Lady Hardwicke beckoned to me, and told me the Princess wished me to be presented to her. So I went and made my bow to the dear lady. She has a sweet natural manner, and a sweet voice; and a look and expression that go directly to the hearts of those who are near her.

The Royal party of course went first to supper, on the dais at the top of the Hall. Then followed the others in long

succession....I went home at two—the last ball I shall ever attend. I danced merrily 53 years since at the Installation of the Duke of Gloucester in 1811. 1864. Æt. 79.

On Saturday morning I rose at seven, refreshed by several hours' sleep. I breakfasted with the Vice-Chancellor, and met the Chancellor and his party. Then I made some calls, and then my rooms were beset by callers, so that the retiring wave of our festival was as overwhelming as its advancing flood...."

In July Sedgwick took a short tour in the Isle of Wight, a district well known to him by hard work in former years—in company with his assistant and friend Mr. Seeley. This was succeeded by a short visit to Weymouth, another ancient hunting-ground, after which he went into Residence at Norwich. Soon after his arrival he had to endure great sorrow in the sudden death of Mr Romilly[1].

To Lady Bunbury.

NORWICH, *August 19th*, 1864.

"...Dear Romilly was the oldest friend I had in Cambridge. Indeed he was the only one left of those with whom I was on close terms of brotherly love during the early years of my academic life. A cross look or a cross word never, I believe, passed between us; and our intimacy became closer and closer as we advanced in life. He was a Christian indeed, without selfishness, without guile, abounding in deeds of active benevolence, and of most angelic temper. And with such loveable qualities he had good sense, and an ample store of knowledge, that made his society at once instructive and delightful. To him I could ever unburden my heart, more than to any other Cambridge friend, in my hours of doubt, or anxiety, or sorrow; and no power under heaven can compensate me for his loss. 'Not my will, O God, but Thine be done,' is all I have a right to say. Yes! I have a right to say more.

[1] He died at Yarmouth, on Sunday, 7 August, 1864. He lay down on the sofa after dinner, and passed away peacefully while his servant was fetching something he had asked for.

1865. Æt. 80. With a full heart I ought to bless His holy name for having so long given me the treasure of such a friend...."

Sedgwick went over to Cambridge to follow his friend's body to the grave. "A very simple funeral," he writes; "everything quite plain. All in the carriages were mourners in deed, and not in word only. I can speak for one. He was buried in a vault [at Christ Church, Barnwell], where his two sisters lay. A place had been reserved for him. The Master of Trinity, the Dean of Ely, Canon Selwyn, and all the resident Fellows of Trinity (in the vacation few in number) were in attendance at the Church door. The service was read with solemnity, and seemed exactly to suit our beloved friend whom God had taken from us—a man of faith and love, mature in Christian grace[1]."

To Miss Maribell Sedgwick.

HASTINGS, Monday, *January 8th*, 1865.

Dearest Maribell (Isabella erased),

Though my eyes are much better, yet writing soon tires them. And surely my sight must be very bad when I begin by mistaking you for your aunt Isabella. But when I had wiped my spectacles, I fancied that I saw your young round face smiling upon me, and saying to me: '*I* am not Isabella, my dear uncle, and you wrote to her yesterday at your brother's tea-table!' So out went Isabella, and you took her place at the head of this letter.

I wrote last week, first to the whole parsonage, afterwards to mamma, and then to Addie. Was it not so? I only remained one night at Cambridge; and on Friday last I started early for London, where I halted, and ate a little lunch at Suffolk Street, and then took my place for Hastings, where I arrived as it was beginning to be dark....

I am, I hope, to leave on Wednesday for Dorset House, Clifton, on a visit to my friend Mrs Guthrie, and I shall remain there, I trust, three or four days, and then return to

[1] To Mrs Richard Sedgwick, 12 August, 1864.

Cambridge. So, my darling, write to me at Dorset House, 1865.
(and may I hope for a bit of St Paul's life at the same time?) Æt. 80.
I declare I have done one sheet before I have reached my brother's lodgings! So take my hand, and let us walk thither in time for James' dinner. 'Dinner, dear uncle! Why you told me you had lunched at London; and have you not told me, again and again, that lunch in the tongue you learnt at Dent always meant dinner?' True, my love; but the Dent dialect is sadly spoilt by all sorts of 'pupil teachers;' and I may sometimes forget my sweet native tongue, for indeed my poor old memory very often mocks me. So come along, my dear, and bother me with no more questions. Tell your mamma that uncle James was quite well, and looking well; and aunt Kate was not looking ill, and was infinitely better than we expected to find her. She is thinner than she was. In the beautiful dialect of Dent they would (in my early years) have said: 'that she was *paired*, and terribly *slyped*, but was luking up and sune wad be in brave fettle again.' Ask uncle Thomas to tell you what it is to be 'in brave fettle,' and what the words 'paired' and 'slyped' may mean. Your mamma had the misfortune of not knowing the Dent dialect when she was your age, and therefore I send you to uncle Thomas. And now my eyes are tired; and I have been writing a vile hand. So put old uncle to shame by sending him a letter in your best hand. And always try to write your best. Your last letter to me was *not* in your best hand. Don't get into the modern boarding-school hand. Let your B's be B's, and not ugly things like this . No! I cannot write anything so horrible as a real boarding-school B.... Don't bother your B's, but turn them with a good double round. Tell your mamma that her big B's always sting me. Let me try to draw a picture of one of her *insects* ( ). No! it is not half as bad as one of her B's. Let me try again ( ). That is better; but not up to your mamma's insects....

Ever, my darling god-child, Your loving uncle,

A. SEDGWICK.

1865. Æt. 80. At the beginning of 1865 the value of the Woodwardian estates had so greatly increased that the Council of the Senate recommended that the Professor's salary should be raised to £500 per annum.[1] On the same day the Senate accepted a gift specially designed to perpetuate the memory of Sedgwick. Mr Augustus Arthur VanSittart, formerly Fellow of Trinity College, one of his intimate friends, and most devoted admirers, gave £500, "for the purpose of encouraging the study of geology among the resident members of the University, and in honour of the Reverend Adam Sedgwick." The conditions to be attached to the gift were discussed by himself and Sedgwick, and a prize was founded, called the *Sedgwick* prize, to be given every third year for the best *Essay* on some subject in geology or the kindred sciences.

To Mrs Philpott.

CAMBRIDGE, *March 6th*, 1865.

"...No man likes to be quite forgotten; and in the solitude of old age there is a great charm in knowing that we have a kind place among the thoughts of our absent friends. I have only to live sixteen more days to complete my 80th year. When I was young, such a period looked like an eternity: for my mind supplied me with no feeling or experience that helped me to grasp it. Considering my years I am a strong man: and till lately I was capable of taking and of enjoying robust exercise. Part of the Christmas Vacation I spent with my friends at Fakenham; and they afterwards visited me at Norwich, when I naturally exerted myself as much as I could. The days passed there very pleasantly; but when the excitement was over I felt sensations of exhaustion, along with palpitations of the heart in a more aggravated form than I had ever felt before. So, after my return, I sent for Dr Paget; and a stethoscopic examination proved, what I before suspected, that I had an organic disease

[1] Grace of the Senate, 23 February, 1865.

of the heart. This knowledge imposes on me (not merely as a matter of prudence but as a most solemn duty) the necessity of living very quietly, and of doing my best, God being my helper, to set my house in order. Thank God I am much better now in my general health. Indeed I am becoming sleek and fat in my old age; but the organic complaint is there still. If I ever exert myself in any way (e.g. if I walk up my staircase at the pace I used to do) I soon have a warning throb in the left side of my chest, and am compelled to slacken my pace. I dare say if you saw me in the streets you would say that I was walking with a solemn dignity which did not mark my paces in by-gone years...." 1865. Æt. 80.

To Rev. C. B. Brodie.

CAMBRIDGE, *March 9th*, 1865.

"...I was called to a Seniority Meeting; and from our Combination Room I went to see the degree of LL.D. conferred on Dr Tischendorf, the great biblical critic, and the discoverer and publisher of the *oldest* Greek MS. of the New Testament in the world, according to some; and allowed I think by all to be nearly of the same date with the famous Vatican MS.

We then had a vote whether our examiners should admit lady candidates, and it was carried[1]. I was in the minority. I think the plan will be a mere stepping-way to the puffing of second-rate forward chits and 'bloomers.' I hope, however, now that the Grace is carried, that I was mistaken...."

In Hall that day the following conversation took place between Mr Martin and Sedgwick:

M. I never could have believed that the University would have sunk so low as this.

S. No indeed! nasty forward minxes, I call 'em!

[1] A scheme for extending the Non-Gremial Examinations of the University to girls, under the supervision of the Local Examinations Syndicate. The numbers were: Placet, 56, Non Placet, 51.

1865. Æt. 80. *To Mrs Philpott.*

CAMBRIDGE, *March 25th*, 1865.

"...I thank you for your kind birthday letter. My friends have not forgotten me in my old age. On the morning of the 22nd (my 80th birthday) I received eighteen post-letters, and several books and parcels, and a beautiful arm-chair, and a little box full of sweet roses and violets. So, if you will come and see me, you will find me living in an atmosphere of sweetest odours. But outside of my rooms there are no zephyrs, but terrible rasping north-easters. I have not gone out of my rooms since last Saturday, and that day the wild wind blew into my ears and made me so deaf that, for a day or two, I feared I was about to lose the sense of hearing....I have now answered nearly all my letters—a heavy task at this season; but on the whole a pleasant task. They have a saying in Dent which I first heard in my childhood (about 75 years since) from an old butcher: 'love makes o' things eäsy.' I began with the children, who had written, in laborious round hands, to greet their old uncle. And bravo! I have nearly done. But I have broken Paget's orders to pieces, for he tells me to write few letters and short ones. I am quite well if I can keep quiet, but after any imprudent movement or fatigue, I am sure to be reminded of my heart-disease by a sensation of tightness in my chest, and by an interrupted palpitating pulse...."

To Dr Livingstone.

CAMBRIDGE, *March 16th*, 1865.

My dear Dr Livingstone,

I have seen in one of our Papers, that you are now in London, but soon about to leave it, on a new Christian mission to Africa. Whenever, and whithersoever, you may go, may God bless your labours of love, and give you long life, and help you to perfect your benevolent plans....I do long to have an hour's talk with you about our beloved and lamented Christian friend Bishop Mackenzie, and about some other

points connected with the, apparently, abandoned Mission— not, however, I trust, permanently abandoned. 1865. Æt. 80.

I greatly dislike the tendency to formal superstitious observances in the present day. Of course I am alluding to the High Church party in England. The idolatrous element is rife amongst us. We want to lean upon our own works and merits, and count them up as if they gave us the right to draw upon our Redeemer's treasures. We are the slaves of our senses, and too willing to follow their lead, rather than to lay the foundations of holy truth in the simple teaching of the Gospel, and the acceptance of an enlightened conscience. Nor is this all. Many of our ministers and people are in an unhealthy craving for the office and power of a sacrificing Priest, and the dicta of an infallible authority, that may save them (in these days of multitudinous difficulties) from all further trouble. This might flatter the pride of the shepherd, and save both shepherd and flock from the toil of thinking, and the fatigue of further wandering. But it is false to the cause of truth, and a flinching from one of the many forms of probation that our God and Redeemer has given us. These subjects also I should perhaps have talked over with you.

Speaking too of my own craft (but age and infirmities have almost taken me out of the fields of geology) I admire the zeal with which its work is carried on; and especially the great palæontological treasures which are spread before our admiring senses. But the Geological Society is partly in fetters. It is not the honest independent body it once was; and some of its leading men are led by the nose in the train of an hypothesis—I mean the development of all organic life from a simple material element by natural specific transmutation, ending in the flora and fauna of the actual world with man at its head. Darwin has made this theory popular, but he has not added one single fact that helps it forward; and I think that it appeared (about sixty-five years since) far better in the poetry of the grandfather, than now in the prose of the grandson. Lyell has swallowed the whole theory, at which I

1865. Æt. 80. am not surprised—for without it, the elements of geology, as he expounded them, were illogical. He is an excellent and thoughtful writer, but not, I think, a great field-observer, and during his long geological labours he has never been able to look steadily in the face of nature except through the spectacles of an hypothesis. His mind is essentially deductive, and not inductive. Now geologists have not yet sufficiently unrolled the records of the earth to reach a starting point of knowledge from which to reason deductively with perfect safety. They may varnish it as they will; but the transmutation theory ends (with nine out of ten) in rank materialism; which is as pestilent in the investigations of material science, as is Popery in the discussions of religious truths, and the duties of a religious life. There is a world of mind, as well as a world of matter; and all the materialists on the earth will never bridge over the interval between the two. I fear I must have fatigued you, my dear and honoured friend. Often from laziness, and sometimes on principle, I abstain from letter-writing; but when I begin I never know how to stop. May God bless you, preserve you, and comfort you. So prays your aged and affectionate friend,

ADAM SEDGWICK.

To Miss Isabella Sedgwick.

CAMBRIDGE, *April 3rd*, 1865.

"...On Thursday [30 March] I learnt that Lady Affleck was now without any hope of recovery. I thought it my duty to write to the Master, and to say all I could, as his oldest friend, to comfort him; and I prayed that God would bless him and sanctify his sorrow. Next morning John brought me a letter from the Lodge. I shed many tears when I read it, written in heart-anguish, yet in a tone of Christian submission. On Saturday the news from the Lodge became more and more gloomy. The hour of death was apparently at hand....She breathed her last on Saturday evening about half-past eleven o'clock. It is a terrible, and

in many ways an irreparable loss to Whewell, and it is a great sorrow to us all. She was the Christian grace and sunbeam of the Lodge. I wrote a second letter of sympathy to the Master, such as I thought became the occasion; and I am to pay him a melancholy visit at eleven this morning. He has taken my letters very kindly, as I thought he would, and I believe that he has found some comfort from them...." 1865. Æt. 80.

To the same.

April 10th, 1865.

"...The funeral on Friday [7 April] was just what it ought to have been—touching and simple. The body was conveyed by college servants to the Chapel—of course under a pall, but without the formality of pall-bearers. Then the psalms and the sublime lesson were solemnly read, without music. The Master immediately followed the coffin, giving his arm to Mrs Sumner Gibson....There were few undergraduates, as the vacation had tempted them away from Cambridge. All the resident Heads of Colleges, and other leading members of the University, were assembled in the chapel....The Master bore up as well as he could; but several times, in our chapel and by the grave-side, his grief overcame him, and found its natural vent in tears and passionate sobbings...."

To Miss Kate Malcolm.

LANGCLIFFE NEAR SETTLE, 23 *June*, 1865.

...I am looking over the green fields and sweet woodlands of the valley of the Ribble. They are flanked by lofty precipices of limestone which beautifully reflect the sunlight: and, since I came hither, on the 14th inst., we have had glorious sunshine, each day, from sunrise to sunset. By the mountain-road (over the Yorkshire moorlands) which runs between Penygent and Ingleborough, we can reach the extreme point of the valley of Dent, after passing over 12 or 13 miles of very rugged road. The structure of the country does not change; and the rock upon which stands the old parsonage of Dent

1865. Æt. 80. is only the unbroken prolongation, towards the N.E., of the grand limestone rocks of Giggleswick-scar and Ingleborough.

I left Cambridge on the 30th of May, and spent a week among the cliffs that form the N.E. coast of Kent. The weather was too hot for hard work, and my two friends, who toiled hard and made great collections, were half broiled by the blazing sunbeams. On level ground I can walk well yet (well for a man of 80), but the state of my heart makes it imprudent for me to climb precipices. So I drove, where I could, along the sands, or by the country roads above the cliffs; and when such could not be found, I went on foot; or halted at some village inn and sat upon a tombstone till my friends came back from 'the diggings.'..."

To Mrs Cooper.

June, 1865.

"...The letter you directed to me at *The Pier Hotel*, Sheerness, reached me on Friday morning, just before we left. In a little more than an hour we were established at *The Bull*, Rochester. We did some good geological work in its immediate neighbourhood. I left my companions (Mr Seeley my assistant, and Keeping, a capital cliff-workman), and spent an hour or two in looking at the magnificent remains of a Norman castle. It stands on less ground than the castle at Norwich; but it is much more lofty, and the great square keep is flanked by four great towers that give the ruin a very picturesque outline—and the outworks, which at Norwich have quite disappeared, are seen at Rochester in grand picturesque masses. I also visited the cathedral, which has been sadly damaged, in its external look, by vile, tasteless, improvements and restorations, done in the worst style. In the interior the nave has some good Norman arches; and the choir has some good Early English arches and clustered pillars, but spoilt, here and there, by vile attempts at restoration...."

Besides studying the antiquities of Rochester, Sedgwick

found time, while his friends were at work. to run up to Greenwich. "It was the Anniversary visitation," he writes, "under the direction of the Admiralty; and the First Lord was there, looking as wise as he could, though I suspect that he knew precious little about the scientific details. Like many others, he took them all for granted. It used to be a grand business when the persons invited assembled near the Tower, and went down the river in Admiralty barges, and in grand procession-order. But railroads are sad levellers, clip the wings of time, and spoil old civic pageants. I met many friends—some of them sadly changed by the wrinkles old Time had chiselled on their cheeks since I had seen them. Admiral Smyth, a right merry man, used always to be there; he is now too infirm. Dr Robinson of Armagh and Sir David Brewster (both of whom you remember) attended the meeting. I dared not attend the great dinner at the Ship Hotel, which is the crowning work of the day. When a younger man I used to delight in the jolly dinner before we entered the barges, and went back to the Tower stairs[1]." The next day Sedgwick took his friends to see the *Great Eastern* steamship, then taking on board the Atlantic cable, and spent several hours in examining her. For a while at least, the weight of eighty years sat lightly on his shoulders!

1865. Æt. 80.

Soon after this expedition Sedgwick began his Residence at Norwich. In the first days of August he had the pleasure of carrying out a long-cherished project: that the Dean of Westminster and his wife should meet Dr and Mrs Vaughan under his roof. "Among the happy remembrances of my long life", he wrote to Lady Augusta Stanley, "I often turn to the days I spent at Norwich while the Stanleys ruled the Palace. Those dear days are gone into the fathomless abyss of past time. But I do think they would come back again—spite of my old age and dim senses—if you and the Dean would join Dr and Mrs Vaughan during their promised visit to my queer old Residence in the Close. I will give you a

[1] To Miss Isabella Sedgwick, 8 June, 1865.

1865. Æt. 80. warm, true-hearted welcome. My days were nearly numbered, as I thought, last winter; but God has given me back such health and spirits that I can look forward with joy to such a visit as my imagination is now painting. Do not dash it out; but come, in your own dear personal presence, and gladden me, and our common friends who may cross our threshold." The visit lasted for nearly a week, and was in every way successful—"the weather glorious, and the faces of our friends bright with welcome;" nor did Sedgwick's health suffer from it, though he owned to great fatigue when it was over. He had, moreover, the satisfaction of knowing that he had given infinite pleasure to his guests. "We can never tell you how intensely we enjoyed our visit," wrote Mrs Vaughan; "I assure you it has been to us more than words can at all express. The lessons we learnt—the memories we stored up—and the delightful impressions made upon us, will never, so long as we live, fade away."

These days of excitement had been prefaced by an unexpected visit from Dr Livingstone, who had been spending a few months in England, and was now about to return to Africa.

To Miss Isabella Sedgwick.

NORWICH, *August 16th*, 1865.

"...Dr Livingstone came on the second of this month by an early train, and left me on Wednesday the third by an evening train which left Norwich before the arrival of the Stanleys and the Vaughans. His time was too limited to remain a day longer. He was grave in manner, but cheerful at heart, and full of hope. He came expressly to see me, and to talk with me. Much most interesting talk we had together. He is now on his way to Bombay; thence a man-of-war will convey him to the coast of Africa, and he means, God willing, to open a way from some spot north of any point claimed by the Portuguese Government. They are slave-dealers and Papists, and therefore, on both accounts, adverse to any

scheme bearing upon the diffusion of Christian light, and Christian protestant freedom. When we parted on the platform I came away more deeply affected than I thought possible. I came back to the Close weeping and sobbing like a child. I was sorrowing most of all, like the elders of the Church of Ephesus, because I thought that 'I should see his face no more.'" 1865. Æt. 80.

To Sir J. F. W. Herschel.

LOWESTOFF, *October 6th*, 1865.

My dear Sir John,

Your dear daughter Maria has been very happy in her childhood and her youth; and God grant that she may be happier still as a married woman! a thrice happy wife, cheered by the brightest fruits of domestic love! I like the name of Hardcastle[1]! 'Tis the name of the hero of *She Stoops to Conquer*—a right merry play I saw acted in a barn at Dent about seventy years since. May she wear the name with joy and honour, in radiant health and cheerfulness, through the years of a long life! and may every serious thoughtful move she may make, be a move towards heaven! True love is an immortal thing. It begins here; but if it be of the right kind it will bear its robust fruits everlastingly in heaven. I send an old man's blessing to Lady Herschel, to you all.

During August and September I was 'keeping Residence,' as we call it, at Norwich. My turn of service ended on the 30th of the last month. On Monday I came hither with my niece and two of her daughters (one counting twelve years and the other only four) to avoid the great theological Babel—the Clerical Congress—which is this week holding its turbulent meetings at Norwich. A man who is deaf as a post, has a gouty temper, and a heart organically diseased, and who bears upon his back the load of eighty years, is ill-fitted for the squabbles of High Church and Low Church. I expect no good from the meeting; and I believe its fruits will not tend to the diffusion of Christian love. May I prove mistaken!...

[1] Miss Herschel married Henry Hardcastle, of Trinity College, B.A. 1863.

1865. Æt. 80. Next week I purpose to return to Cambridge, and during the October term I hope to give my course of lectures. If so, it will be my 47th course! My young people have been steeping themselves in the sea, and here they are coming with right merry faces. So no more time for writing. Ever, my dear Herschel, truly and gratefully yours,

A. SEDGWICK.

"I got well through my course of lectures in the Michaelmas term, far better than I expected," Sedgwick tells us; but while delivering them he was suffering from what he calls "a decay of sight," and the exertion brought on an inflammation of his eyes, which affected them to the end of his life. At the end of November his sister-in-law, widow of his brother John, died at Langcliffe near Settle. He paid a hasty visit to Yorkshire in order to attend the funeral, which took place at Dent. The long weary journey over the hills occupied an entire day.

To Miss Isabella Sedgwick.

CAMBRIDGE, Tuesday evening,
December 5th, 1865.

Dearest Isabella,

Once more in my old College home, and now in solitude. Sometimes I think of you as my darling child, sometimes as my beloved companion and Christian friend, the comfort and solace of my old age. I thank God that I have been permitted to mourn with you in your late sorrow, and to be with you in your solemn duties of respect to the mortal remains and the memory of your beloved mother. This evening, like myself, you will perhaps be in solitude. May the Holy Spirit of God be your strong and abiding Comforter, so that your sorrows and your tears may be sanctified and turned to the health of soul and body!...

Ever your true-hearted uncle,

A. SEDGWICK.

To Mrs Norton. 1866. Æt. 81.

LANGCLIFFE near SETTLE, YORKSHIRE,
February 28th, 1866.

"...I give you joy on the successful end of the terrible war which desolated the Southern States of your Union. The price you have paid has been great—but not too great for the purchase of freedom for your negro fellow-creatures.... It is delightful to think that whoever walks within the limits of the United States, whatever may be his complexion, may now hold up his head as a free man. Whatever may happen in the ordinary course of nature, a great and glorious future is before you; and I trust that Providence, who has given you so much civil freedom, and a country abundant in the physical materials of strength far beyond that of any other nation, may also give you a moderation in the use of your gigantic strength, so as to make it tell greatly upon the virtue and the happiness of mankind....

Some news came to me last night which greatly displeased me. The establishment in Cambridge of a lectureship to be filled from time to time by a gentleman from one of the Universities of the United States was proposed, but the *Grace* (as we call it) was thrown out by a vote of our Senate. It was a novel proposition, of which I heard before I left Cambridge, and all the leading members of the University to whom I spoke on the subject were in favour of it. But a letter was published soon afterwards by a clergyman of the University, who wrote under the terror of republicanism and heresy. When I read the letter I thought it sounded like a death-knell to the *Grace*. The knell brought crowds of country clergymen to Cambridge, and thus the best working-members of the University have been deprived of an institution which would, I believe, have contributed to their intellectual happiness and honour[1]...."

[1] The proposal to which Sedgwick alludes was made by Henry Yates Thompson, B.A. formerly a scholar of Trinity College. After a visit to America in 1864 he offered "to endow a lectureship, or, as we call it at Lincoln's Inn, a

1866. Æt. 81.

To Sir J. F. W. Herschel.

DENT PARSONAGE, *March 16th*, 1866.

My dear Herschel,

The condition of my eyes makes me almost a prisoner, and compels me to make use of my niece's pen,—not the niece whom you saw at Norwich, but my nephew's wife, who, with a large family of small children, is living here in the house which was the home of my childhood, and ever since has been the home of my heart. It was the infirmity of my sight which drove me from Cambridge about five weeks since. After spending about three weeks with my niece Isabella, who lives near Settle, I was sufficiently well to bear a journey to this place; and I am now so much better that I trust I shall be able to return to my duties at Cambridge by the end of next week.

At the time I left Cambridge our dear friend Whewell was in good health, and in a happy and genial temper. I never saw the house look more cheerful than it did then; for some bright, clever, warm-hearted persons were his guests. Greatly was I shocked when I heard, soon after my arrival at my niece's house, that he had fallen from his horse, and been

readership, at Harvard University, its object being the delivery of a biennial course of twelve lectures during a residence of one term at Cambridge in England, on the *History and Political Institutions of the United States of America*, such reader to be appointed biennially by the President and Fellows of Harvard University (subject to the veto in each case of the Vice-Chancellor of Cambridge), and his sole qualifications to be American citizenship, and the opinion of his appointers that he is a fit person to deliver such a course of lectures." Some preliminary correspondence with the authorities at Harvard having taken place, Mr Thompson informed the Vice-Chancellor, 27 October, 1865, of what had been done. He subsequently suggested that before the scheme was adopted one preliminary appointment should be made. The Council of the Senate stated these suggestions in a *Report*, and introduced a *Grace* to place a room at the lecturer's disposal. The proposal created extraordinary interest. There was an animated discussion in the Arts School (10 February 1866), where Mr W. G. Clark, Dr Bateson, Professors Kingsley, Lightfoot, and Thompson, warmly supported the scheme. The clergyman referred to by Sedgwick is probably the Rev. Edw. Dodd of Magdalene College. When the voting took place (22 February) the numbers were: Placet 81; Non Placet 107.

picked up in a state of insensibility, and that after a partial recovery of consciousness it was found that his side was paralyzed. Such was the form in which the news reached me, and considering his age, and habit of body, I could not but entertain very gloomy anticipations. After the hour that I heard the fatal news I had frequent daily communications, by post, by telegrams, and sometimes by both, with his nieces and my friends at Cambridge, up to the time of his death. Had the funeral been a few days later I should probably have defied the medical veto, and gone up to Cambridge, that I might mourn over the remains of dear Whewell along with friends whom I love and honour, and who had a common grief with me. As it was, I was compelled to keep away, to my grievous sorrow. He was not only my dear and honoured friend of full fifty years' standing, but he was the *only* friend at Cambridge who was associated in memory with the joyful days of my early and hard-working academic life. Terrible will be my feeling of desolation if I again be permitted to enter within the Great Gate of Trinity College. Professor Thompson, as I learned yesterday from *The Times*, is to be dear Whewell's successor. He has a reputation worthy of the place, for he is, I believe, universally regarded as the profoundest Greek scholar in the University, and his scholarship is not confined to mere elegance of interpretation, and critical skill, but with such acquisitions he combines a profound knowledge of the philosophic literature of Greece, and its powerful bearing upon the literature, habits of thought, and civilization, of modern Europe. But his occasional feebleness of health, and his perhaps over-fastidiousness of taste, have so far prevented him from being a very productive labourer. All things considered, I rejoice in his appointment, but in the vastness of acquisition and the depth of his scientific attainments, and in his working power, he is not to be named with our late friend, whose giant strength, my dear Herschel, you were able to appreciate far better than I could pretend to do. One thing I can say: 1866. Æt. 81.

1866. Æt. 81. that you will rejoice to know that during the latter years of his life the infirmities which played upon the surface of his character seemed gradually to disappear. He became more genial, more gentle, and I will venture to say more heavenly-minded. He was a great, generous, large-hearted, and good man, and during the short remnant of my life I shall not see again his like among the members of Trinity College. In expressions of this kind I have in letters to my friends done my best to discharge my conscience, and I have never been able to do so without tears and heart-sorrow; but it is sorrow tempered by Christian hope, and it is my honest and comforting belief that, in the fulness of that hope, dear Whewell died....

Affectionately and gratefully yours,

A. SEDGWICK.

From Professor Thompson.

21 *March*, 1866.

My dear Professor,

I know not how to answer or acknowledge your kind and most eloquent congratulations. Of all the letters I have received on the occasion, and they have been far kinder and far more numerous than I could have expected, only that of our old friend the Bishop of St David's has given me so much pleasure as yours. The office would be an insupportable burden to me, if I thought that my appointment was disapproved of by the College, especially by those great and good members of it who have made it what it now is: and any assurance to the contrary from one of them gives me a pleasure which I should vainly attempt to describe.

That God may long spare your life to be a glory to Trinity, and a delight to all its members, is the hearty prayer of

Yours most truly and affectionately,

W. H. THOMPSON.

A man in stronger health than Sedgwick might well have been broken down by the succession of sorrows with which he was afflicted at this time. One woe did tread upon another's heels with painful rapidity. Soon after the news of Whewell's death, came that of Archdeacon Evans—a friend of nearly his own standing at Cambridge, and, for a short time, one of his competitors for the Woodwardian Chair; then his brother

Mr James Sedgwick passed away; next, after a very short illness, Mrs Guthrie, and Mr Harford, her friend and neighbour, and Sedgwick's friend as well; and, lastly, one of the daughters of Dean Conybeare, whom he had known from a child. Under these successive shocks—some of which affected others near and dear to him as much as himself, we are not surprised to hear that "my nervous system gave way, and for five weeks I again took shelter with Isabella. I was liable to continual attacks of vertigo, which often made me incapable of walking without help. Isabella again wrote for me; but my head would not bear to hear her voice in long-continued reading. I was kept in almost perfect quietness for several weeks[1]." This affectionate care had the desired effect, and after a visit to the seaside, he was well enough to return to Cambridge, where (31 May) the honorary degree of Doctor of Laws was conferred upon him. We believe that he was the first resident member of the University selected for this distinction. 1866. Æt. 81.

To his great-nieces.

CAMBRIDGE, *April 6th*, 1866.

My dearest little great-nieces,

...Yesterday's post brought me a letter from Linda Barnes. I think it will amuse you all. Mr Barnes, Linda's father, died last year, which explains the black edge of her paper. He was a merchant; and he called one of his ships *The Adam Sedgwick*, and over the prow of the ship is a great bust of your old uncle. She calls it *beautiful* and *white*. If it be like an old face which I saw in the looking-glass this morning, while I was shaving, it cannot be very white and beautiful. For I am about the colour of an old saddle, and the blasts of 81 winters have made my face wrinkled and rugged. No matter, my darlings, I still have a heart to love you, and I send you all my best blessings.

Your loving old uncle,

ADAM SEDGWICK.

[1] To Canon Wodehouse, 8 July, 1866.

1866. Æt. 81. *To Mrs Hotson.*

Sunday Morning, *April* 22, 1866.

My dear Mrs Hotson,

I am very grateful to you for your kind note. Words of sympathy are very precious to man or woman when under sorrow. And the sorrow I have felt at the death of my old and beloved friend Mrs Guthrie has pressed very hard upon me, and almost bent me to the ground. It was a great comfort to me that I was able, on Friday last, to appear at the grave-side of one whom I dearly loved and honoured, and to mourn over her remains while the sublime words of our funeral service went to our hearts, and told us that Christ had by his death taken away the sting of death, and that we were not to mourn like men without hope. Thanks be to God we have indeed the full assurance of hope in the instance of our dear departed sister. For her faith was firm and made perfect by love. And for many a long year had she shown how well the hands can work when the heart is in communion with the Spirit of a Redeeming God. A more devoted, unselfish, and kind lady did not live under heaven. Her ways, too, were ways of pleasantness, and wherever she went joy and gladness seemed to be her attendants. She was a woman of bright wit; of great natural tact; of a judgment that led her, with God's help, to do day by day what was best to be done among young and old; among fellow-creatures in great trials of pain and poverty, in sickness and sorrow. It is a blessed privilege to have seen and known such a true-hearted Christian sister, and I shall never see her like again....Again accept my thanks for your very kind note, and believe me truly and gratefully yours,

A. SEDGWICK.

To Miss Isabella Sedgwick.

CAMBRIDGE, *October 22nd*, 1866.

"...On Wednesday next (the 24th), I hope to give my opening lecture—the first of my 48th course[1]! I trust that I

[1] This lecture is reported in *The Cambridge Chronicle*, 27 October, 1866.

may begin in good spirits and good hope, though my memory is more shaken, my ears more deaf, and my eyes more dim than they were last year at this season. The 'Farly Fathers,' with their youthful sons, and with wives to help them, have been here in droves, and have left me but little leisure. I have now actually written, in the rough, a part of our *Memorial to the Ecclesiastical Commissioners*, and in a few days (D.V.) you shall have the copy to read.... 1866. Æt. 81.

Last Thursday evening some young blockheads at St John's were firing pistols at a mark; and the light of my bedroom window (just while I was undressing for the night) was too great a temptation to be resisted. So the boobies fired two shots at it, and sent two bullets through it, one of which passed within two feet of my head...."

What happened when this matter came to be investigated is worth relating, for it shews how kind Sedgwick could be, even when he had good reason to be angry. "One morning," writes Professor Bonney, "when I was keeping in the Second Court of St John's, I heard a loud knocking in my outer room, and on emerging from my study found Professor Sedgwick in a considerable state of indignation. He had come to me, as one of the Deans, to complain that the night before a couple of shots, fired from a pistol, had struck one of his windows, and entered the room. There could be no doubt, he said, that they had been fired from our College. I thought the best plan was to offer to come and see the place, and went back with the Professor. He had good cause for indignation. Both bullets had pierced the glass, one indenting the wooden frame, on which it had glanced, the other making a very marked bruise on the opposite wall of the room. I soon saw that the shot must have come from a particular window, and having done all I could to appease the Professor, went back to College, and sent for the occupant of the rooms in question. He at once admitted having fired the pistol. He had been standing at his window with one

1867. Æt. 82. or two friends the night before, looking at the pistol, and had fired a couple of shots from it at the lighted window, but not dreaming it would carry so far. I said: 'This is a serious affair, and I can only see one way out of it. If Professor Sedgwick presses the matter you may be rusticated. But, though he is very angry, he is very kind-hearted. Go at once to him, tell him you are the culprit, and ask him to forgive you. He will probably tell you his opinion in very plain words at first, and then relent.' Off he went, and in no long time came back to say that the Professor had been very kind, and did not wish anything more said. Presently Sedgwick came himself to say that he had seen the culprit, and did not wish me to take any further notice of the offence." As Sedgwick put it: "The offender promises hereafter not to mistake an old Professor for a Butt."

Sedgwick gave the course of lectures alluded to in the last letter, "without much fatigue, and kept a small class well together[1]." He also attended the annual dinner of the Cambridge Philosophical Society, and made a speech, as heretofore.

To Miss Isabella Sedgwick.

LONDON, *February 8th*, 1867.

"...On Tuesday last died Crabb Robinson, aged 92. He was an old friend of mine with whom I first became acquainted (in 1811) at the house of Thomas Clarkson, who had laboured so honourably in bringing about the abolition of the slave-trade. That year I took my M.A. degree, and spent the summer, with seven pupils, at Bury St Edmund's. In the previous year I had become acquainted with Mr and Mrs Clarkson, and they persuaded me to choose Bury St Edmund's as the place where I should fix myself for the summer. It was a very happy summer. I was in glorious, youthful, health; in joyful exuberance of spirits; and I had excellent society. Mrs Clarkson was a very agreeable and well-informed

[1] To Rev. P. B. Brodie, 6 February, 1867.

woman—a great personal friend of all the Lake poets. She told me much about the private life, manners, and opinions of Wordsworth, Southey, Coleridge, Charles Lamb, etc. etc., and she was enchanted with poor Hartley Coleridge, whom she only knew as a wonderful child. Crabb Robinson had been called to the Bar, and was attending the Norfolk Circuit, so he remained several days during the Bury Assizes. He had spent the early years of his manhood in Germany, and was upwards of thirty when he was called to the Bar. Wordsworth was his greatest friend; I might almost say the object of his idolatry; and he made a promise, that, if blessed in his new profession of the Law, he would retire from it so soon as he had saved a humble competence which would enable him to lead a life of literary leisure. Wordsworth at the same time made another promise, that, when Crabb Robinson's plan of retirement was effected, they were to spend one summer together in a tour through Germany, to visit its poets, historians, and philosophers. I afterwards became acquainted with the Lake poets, and I honoured them much, though never an idolater of them. Many times I have heard Wordsworth allude to this bargain with Robinson, as a dream that would not be realized. 'Robinson,' he said, 'is working on in his profession, and will never think of leaving the Bar, and turning an idle man.' But, strange to tell, he did leave it so soon as he had gained such a fortune as would enable him to lead the simple life of a man of letters. And the tour in Germany, after twenty years, was carried happily into effect....[1]" 1867. Æt. 82.

To Miss Bayne.

CAMBRIDGE, *February 12th*, 1867.

"You seem to be very happy in the selection of your climate[2]. I was in Norfolk through the worst part of the savage season. In the early part of it—the first ten days of

[1] Mr Robinson left the Bar in 1828. The tour with Wordsworth in France, Italy, and Germany took place in 1837. *Diary* of Henry Crabb Robinson, 3 vols. 8vo. Lond. 1869, iii. 113—138.

[2] Miss Bayne was spending the winter at Torquay.

1867. Æt. 82. January—I bore up bravely in the Rector's house at Fakenham. Kind friends; a warm old-fashioned Rectory; blazing fires; merry children; ice as smooth as a glass at the bottom of the Rectory garden, with whirling skates seen from the fireside where I sat—such were the elements of my happy visit.

The visit ended, I went (as I thought for *one day*) to Norwich. But I caught a dire cold on the way. The weather became more formidable than ever; I felt as if my blood were frozen. The snow fell in enormous accumulations. For a full fortnight I was a prisoner to my room, and, day after day, I saw no faces but those of my tall servant John and my old housekeeper and her helper. My friends, however, gradually heard that the oldest gun in the Cathedral battery was sticking in a snowdrift, and ran to help him out, driving over the mountains of snow in sledges. Wheeled carriages were quite out of question for several days. At length, however, a thaw came, and so soon as I was declared fit for travelling, I came back to Cambridge....

At Trinity I had an examination of my Geological Class, which employed me, along with my Christmas bills, etc. for nearly a week. These tasks done I went up to Town to disentangle some legal business....Would you believe it? I longed excessively to go to one of the Pantomimes! But the angry state of my eyes, and the fear of a relapse of the complaint which so sorely bothered my legs at Norwich, prevented me from indulging the fancies of my second childhood. I did, however, see them by deputy. For my servant went in my stead, to his great edification. I wish you, my dear Bella, to remark, that by living to the age of 82 (I shall count that number complete if I live till the 22nd of March), I have contrived to pick up a stock of prudence!..."

To Miss Isabella Sedgwick.

NORWICH, *February 14th*, 1867.

"...What has brought me to this place? A letter telling me that there is to be to-day a great meeting at the Town

Hall to consider the steps to be taken for the reception of the British Association in the summer of 1868. This is running in advance of Time, I think; but better too soon than too late. As Canon Sedgwick was once the President of the Association (33 years since!) it was thought expedient that he should show his youthful face at the meeting!..." 1867. Æt. 82.

Not only did Sedgwick show his face, but he made his voice heard in a vigorous speech, which probably did much to stimulate the scientific enthusiasm of Norwich, then, as he hints in some of his letters, somewhat lukewarm.

The next letter was called forth by a note of congratulation on his eighty-second birthday. It gives a somewhat painful picture of the lonely life which he was now compelled to lead.

To Mrs Thompson.

TRIN. COLL. *March 22nd*, 1867.

My dear Mrs Thompson,

I am grateful, and send you my heart's true thanks for your kind note. For several days I have been living in absolute solitude, with the exception of the occasional presence of my bedmaker and my servant. A man who lives in college till he can count his eighty-second birthday is sure to have outlived all the friends and companions of his early life. But I have learnt to bear solitude, if I can have access to books. But, alas! my old eyes are in an angry state, and hardly permit me to read by candlelight. This is a great trial. Let me not murmur. Rather let me bless God for his long-suffering. Old and solitary as I am the post has proved that I am not quite forgotten, for I have had love-letters falling about me like flakes of snow. And I thank God that my heart is *not* yet so hardened that I cannot feel very kindly emotions when I read the congratulations sent me by youthful fingers, at the dictation of youthful and joyful hearts. I must write no more now, my eyes tell me to stop.

1867. Æt. 82. May God make the Lodge the habitation of domestic love, and all earthly honour, for many many years to come —for many after I have been called away from human sight.

Truly and gratefully yours,

A. SEDGWICK.

To Mrs Norton.

PARSONAGE, DENT, *July 17th*, 1867.

My dear Cousin,

I am more feeble in muscular strength than I was last year, though in far better general health; I am more deaf, more dim-sighted, more incapable of any severe and continued mental effort. But I try to thank God for the gift of long life. For He has taught me to love my friends, and kept alive that love until now, with, I think, an undiminished warmth. But nearly all the objects of my early love are gone from my sight, and now I am reaping my best social joys among my nephews and nieces, and their merry children. Eight young, happy, merry children are here; and the old parsonage is as noisy and full of glee as it was 70 years since....

Such was my nervous infirmity in the autumn of last year that I could not even bear to dictate letters. I at one time thought, and my medical advisers thought, as they now tell me, that my tale of life was nearly counted; but I rallied wonderfully at the seaside, on the northern coast of Norfolk, and with a little help from my assistant-naturalist I was able to give my 49th[1] course of lectures. Should my health permit it, I hope to give my 50th course during the next Michaelmas Term, and then it will be time for me to strike work as a public servant....

I have come to this dear old Parsonage, after a charming and instructive tour with my niece Isabella, through some of the sweetest counties in this island. We visited the delicious scenery of the Wye and the Severn—the grand mediæval

[1] Really his 48th course.

ruins of the castles of Raglan, Chepstow, and Ludlow— famous for deeds of heroism, and alas, infamous for deeds of blood done within them. And the history of such spots belongs to *you*, as well as to *us*. We visited too, some fields of ancient battles during the Wars of the Roses; and we examined with deep interest the tombs and architectural monuments of six of our cathedrals, and the ruins of two or three of our famous abbeys—Tintern Abbey much the most charming, though we have two in the north of England which I think match it in beauty, grandeur, and antiquarian interest. I am sure you must have read Wordsworth's poem on *Revisiting Tintern Abbey*. Of all his shorter poems it is, I think, the most popular in Old England. 1867. Æt. 82.

I was interrupted by an incursion of youthful barbarians who cared nothing for Tintern Abbey, or any scenery on the face of the earth, but were intensely happy, and in the full tide of youthful health, and in the sounds of their own merry voices, and they certainly did not make me melancholy. Yet our weather here, after some weeks of brightest sunshine, has become so cold, damp, and dismal, as to give any ordinary man a fit of 'doleful dumps,' and I was fain to catch a gleam of joy from the bright young faces. Yesterday the new 'Reform Bill' passed our House of Commons, and I think the very sky is putting on mourning at the result; certain I am that we are taking a most dangerous leap in the dark. We have a glorious civilization—the issue of many a hard-fought battle; in practical life we have ample freedom; in speculative freedom we can let our thoughts run in perfect free will; we have an enormous capital—and all is now put to risk. All my long life, till now, I have been strongly on the liberal side; but, with good old whigs, I wished the old elements of King, Lords, and Commons to keep their well-balanced places in the adjustment and conservation of our nation's liberties. I am now an old croaker, and fear that all the great elements of policy which have made old England what she is are in the utmost peril. And there are other public signs

1867. Æt. 82. of coming sorrow and decay: the rank infidelity and vile materialism of many clever but shallow writers; the latitudinarianism of one set who would roll out the fundamental doctrines of our faith into gold-leaf which is only fit to gild gingerbread; the bigotry of another large set; the coxcombry and popish apery of numerous clergymen of the Church of England. All these things often sink my spirits into the mire, and compel me to think that (agreeably to a heathen saying) God is turning us into a nation of fools and madmen, because He means to crush us utterly in the end.

I declare, my sheet is done. Neither my old eyes nor my blighted head would bear a march over another page; so adieu, my dear cousin.

Your very aged, but true hearted,

and affectionate friend,

ADAM SEDGWICK.

To the same.

August 27th, 1867.

"...As Mr Norton is a part of yourself, I send my love and my blessings to him, though I have not had the happiness of ever seeing him. I beg his pardon. I have seen him in his writings—a thousand times better view of that which gives him the likeness of God's image, than a mere peep at his face, which is but his soul's mask—a part of that which Shakespeare calls our 'muddy vesture of decay.'

All my long life I have been called a liberal; all my votes since I came to manhood have been called liberal till now. But now I am a stiff-backed tory, and I think that our liberals are turned raving mad, and that a good-hearted old man should not sail in the same boat with them. So I mean to set up for myself under some new name...."

In the course of our narrative we have more than once noticed Sedgwick's high respect for the character and attainments of the Prince Consort. When he received, in March

1866, the then privately printed volume called *The Early Years of the Prince Consort,* he regretted that it would be read by only a privileged few. "In regard to the effect of the volume upon the people of England," he wrote to General Grey, "should Her Majesty hereafter resolve to publish it, there cannot, I think, be the shadow of a doubt that it would exalt the loyalty and love of all true-hearted Englishmen.... We now see, from first to last, the beautiful consistency of the Prince's character. He was a lovely boy with a gentle temper; yet even then he had a mental strength above his years, which gave him the mastery over his elder brother. And so it was in after-life. Those gentler qualities which made him the purest pattern of domestic love, never, for a moment, degenerated into feebleness or effeminacy, but were carried out into a noble purpose, by their unbroken union with the firm will of his great and unselfish heart....If it be good for man, as is taught by the poet Goethe, daily to see and to feast upon objects of great beauty in art and nature, surely the contemplation of a character at once so great and so beautiful as that of the Prince Consort, should be a sublime and touching lesson to our countrymen[1]." 1867. Æt. 82.

In June, 1867, the volume was published, and portions of Sedgwick's letter were printed in the *Preface.* "I thought," wrote General Grey, "and, what you will think more to the purpose, the Queen thought, your appreciation of the Prince's character so beautifully expressed, that she wished your own words to go forth for the advantage of the Public; and then the impression which you described the perusal of the book as producing upon yourself, was so encouraging, that the desire to introduce the volume as it were under your patronage, was not to be resisted; and who shall say how far you may not have contributed to its present success?... The success has certainly been beyond my most sanguine expectations, and you ought to rejoice more especially at

[1] *Early Years of H. R. H. the Prince Consort.* 8vo. London, 1867, pp. x—xii.

1867. Æt. 82. this, for *your* opinion was the one which had the chief influence in deciding the publication[1]...."

To Miss Isabella Sedgwick.

CAMBRIDGE, *December 8th*, 1867.

"...On Friday I gave my usual lecture. As I could not finish all I had to say, I appointed my class to meet me again at 12 o'clock yesterday, and I had a lecture of an hour and a half, which went off well. The act of lecturing does me good, if I can only have a hot bath immediately after it....

Monday, December 9th, 5.15 *a.m.*...I must now eat my second breakfast, and think about my parting lecture. May God be with me, and give me strength and memory and a right mind, so that, while I review the labours of the past term, I may prove that all parts of nature are under the rule of a Law 'whose seat is the bosom of God, and whose voice is the harmony of the world;' and that I may make my young men see by the light of reason and of conscience that the solid earth itself and all within its dark mysterious caverns 'is a rich storehouse for the glory of the Creator and the relief of man's estate!'

6.30 *p.m.* My lecture went off well, and it lasted more than an hour and a half. I did all, or nearly all, that I wished to do. My lungs are sound and good, and my young men gave me a very animated greeting. I recapitulated—pointed out the proofs of wisdom and design through all nature, and its subordination to Law—enlarged on the folly of the Darwinian theory, and its inevitable tendency to rank materialism—and, partly by quotations from Newton, Bacon, Hooker, and the Bible, showed the manner in which natural science might be wedded to moral conclusions..."

The following letter, written to Miss Sedgwick by Dr G. H. Ainger, son to her uncle's old friend, gives a pleasant glimpse of Sedgwick at the end of 1867.

[1] From General Grey, 9 August, 1867.

From Rev. G. H. Ainger. 1868.

ST BEES, *January 2nd*, 1868. Æt. 83.

"...During the intervals [of my daughter's examination] we contrived to see a good deal; and especially, your good uncle, whom we found, I am most happy to say 'in great force.' I left Caroline at Ely on the Saturday (14 December) and went over to dine in Hall at the Commemoration Feast. In the absence of the Master your uncle presided, and made a number of speeches, quite like himself—and was well appreciated by all the seniors like myself, as well as the juniors—i.e. the College Prizemen, who were guests, and who will long remember, I doubt not, and talk of their privilege to hear the kind genial hearty old gentleman, as he poured himself forth, on all sorts of topics, lighting up the simple invitation 'to go into the Combination Room for Coffee,' with the brilliancy of his eloquence—as well as the more heart-stirring toast of the prosperity of the College.

Caroline and I found him in his Museum on Monday morning. We saw him at various times till Thursday, when my boy the sailor William, his godson, joined us on his way from Dartmouth. We dined with him in his rooms, along with a cousin of mine, Arthur, and young Airy—and again had an early dinner, nominally lunch, on Friday, before we started for Whittlesea. You know his charming manner with young people; and nothing could be kinder than he was to mine—and I am sure they will always remember it..."

At the Commemoration here referred to Sedgwick, who, as Mr Ainger's letter indicates—was in the best health and spirits, said to the undergraduates: "I'm glad they've given you champagne! it will warm the cockles of your young hearts! I hope you'll indulge in a wise hilarity!" It is almost superfluous to add that they followed his advice.

In the year 1868 Sedgwick printed, for private circulation, the *Memorial by the Trustees of Cowgill Chapel*, from the preface and appendices to which we have quoted his delightful reminiscences of Dent in former days. When the chapel was consecrated (31 October, 1838), the requisite documents were in readiness, and approved by the Bishop of Ripon; viz. the deeds of trust and endowment; the title-deeds of the freehold on which the chapel stood; and a map on which the district of the chapel was defined. These documents were taken away by the Bishop's secretary for registration; but, early in 1864, the trustees, of whom Sedgwick was the senior, learnt, to their great dismay, that no registration had taken

1868. Æt. 83. place, and that their right of patronage, together with the right of the chapel to a district, had both been lost. Under these circumstances, they transferred the patronage to the Bishop; and took steps "to procure, on the award of the Ecclesiastical Commissioners, the reappointment of a district[1]." After some negotiation—and a protest from Sedgwick against the district first suggested[2]—the boundaries were satisfactorily settled, and the award, confirmed by the Queen in Council, was published in *The London Gazette*, 12 September, 1865[3]. So confident were the trustees that the matter was now unalterably settled, that they did not take steps to procure a copy of the award, as printed; and it was not until June, 1866, that they learnt that the document directed a change in the name of the chapelry, which was henceforth to be called, "The District Chapelry of Kirkthwaite." Sedgwick was extremely indignant, and with good reason. By a stroke of the pen the whole history of the chapel was to be erased. "It had been consecrated; it had a name which had become endeared, as a household word, by daily use; and its congregation had attended its sacred services for a quarter of a century. In such a case assuredly no change ought to have been made in the names of the chapel and the chapelry without very cogent reasons[4]." These reasons appeared to him and his co-trustees to be wholly wanting; and, worst of all, the name Kirkthwaite was erroneous. "There is no district within the boundaries of Dent called Kirkthwaite," says the *Memorial*. "There is a Hamlet called Kirthwaite; but that Hamlet is not the District laid down by the Award[5]." They therefore addressed a *Memorial* to the Ecclesiastical Commissioners (29 December, 1866), in which the history of the chapel and the orthography of Kirthwaite are ably and conclusively discussed. It closes with a "loyal and earnest prayer: (1) that the Award...may be so modified that its verbal contra-

[1] *Memorial*, p. 10. [2] Ibid. pp. 27—29.
[3] It is printed as Appendix II. to the *Memorial*.
[4] *Memorial*, p. 13. [5] Ibid. p. 3.

dictions may disappear, and the error in the orthography of the word Kirkthwaite may be corrected; (2) that the name of Cowgill Chapel be fully retained; (3) that its District be named (as it was named in the three first successive Presentations) the Chapelry of Cowgill[1]." 1868. Æt. 83.

The Commissioners replied (7 March, 1867), in courteous language, that the Cure was completely formed, and that they had no "power of altering the title under which a District may have been legally created[2]." Sedgwick at once determined to print the *Memorial* for private circulation among "the Statesmen and Inhabitants of the Valley of Dent, and the present Representatives of those kind and generous friends who subscribed to the Building and Endowment Funds of Cowgill Chapel." Before doing so, however, he fortunately determined to add to it some essays on the climate, history, and dialects of Dent. These grew as he worked at them, sitting, as he tells us, in his armchair, and dictating to his servant; so that nearly a year elapsed before the little volume bound in green cloth—"the child of my old age, dressed in an old-fashioned dress of a child of the Dales[3]"—could set out on its travels.

It had a remarkable experience. A copy found its way to the Deanery of Westminster, and presently Lady Augusta Stanley wrote to say that the Queen would like to see one. Before long Her Majesty, through General Grey, sent "her very sincere thanks," with an intimation that the prayer of the Memorial appeared to her just and reasonable, and that she would communicate with the Archbishop of York, in order that a new Council might be held for the purpose of restoring the original name to the chapelry of Cowgill. Sedgwick, as was only natural, was greatly delighted at this unexpected turn of events in his favour. "I declare that while I was dictating my pamphlet," he wrote, "I should as soon have thought of directing it, by the Book Post, to the Planet Neptune, as to Balmoral! Had I known that it would be

[1] *Memorial*, p. 24.
[2] Ibid. p. 33.
[3] To Mrs Philpott, 29 May, 1868.

1868. Æt. 83. read by my Sovereign I should not have dared to write about the old tailor or wig-maker, and about the 'night-sittings' and the 'cryings-out' in Dent. And it would not have been half so spicey as it is! 'All's well that ends well[1].'"

The Archbishop made no difficulty, but some delay ensued, for it turned out that the authority of Parliament had to be invoked. Mr Gladstone, then Prime Minister, took the matter up; the Bill, introduced by the Archbishop in the House of Lords, had Ministerial support in the House of Commons; and in July, 1869, the "District Chapelry of Kirkthwaite" was changed for ever into the "District Chapelry of Cowgill[2]."

Sedgwick promptly printed an *Appendix to the Memorial*, for circulation among his Dalesmen. The previous work was a tale of sorrow, but this is a tale of triumph—sobered a little by the thought of his increasing age—but still a joyful statement of what his Dalesmen owed "to the love of right and the condescending goodwill of our gracious Sovereign[3]."

During the spring of 1868 Sedgwick had been made miserable by an unusually severe attack of bronchitis, but he got well again when summer came round, and was able to follow his usual pursuits, and to take interest in what was going forward in the University.

To Miss Isabella Sedgwick.

CAMBRIDGE, *June 16th*, 1868.

"...This morning I was going to start with Keeping for Potton, that we might pick up the teeth of sharks—the back-plates of turtles—the claws of gigantic crocodiles—etc. when I received notice that the poet Longfellow would this day appear in person to receive an honorary degree. So I bustled off old Keeping, and called at Caius College Lodge, where Professor Longfellow is staying. A good-looking,

[1] To Miss Isabella Sedgwick, 27 October, 1868.

[2] *Supplement to the Memorial*, pp. 2—5.

[3] *Appendix to the Memorial*, p. 6.

well-bred man—with a long, whitish, beard. I told him that as an American he was our cousin; and that through his works of genius he had a place in the heart of every well-educated Englishman. So we greeted him, not as a stranger, but as a personal friend whom we loved to honour. At 1 p.m. I am to lunch at Caius Lodge that I may quietly meet the poet...." 1868. Æt. 83.

In July, Sedgwick met with an accident, which kept him a prisoner for many months. "Since last July," he wrote to Sir John Herschel nearly a year afterwards, "when I overtaxed my powers of walking and climbing among my native hills, I have lost my power of taking healthy exercise. I gave my left knee an ugly twist while clambering up a precipice, along with a set of my grand-nephews and nieces, after we had descended to look at a great hole in the rocky watercourse called 'Hell's Cauldron.' I found it true now as it was in classic times. Easy enough to go down to Avernus; but to come back again—there is the trial and the tug, as my poor old left knee found to its long sorrow! I had a very sensible warning at the time; but I neglected it, till the wearing uneasiness became aggravated into terrible pain, and I only saved the knee-joint by very active and painful treatment[1]."

In consequence of this mishap Sedgwick was obliged to stay at home while the British Association was meeting at Norwich. "I sat in state," he records, "like an emperor, with my left leg resting on a superb cushion." But his scientific friends did not forget him. "But for a severe accident," said Dr Hooker in his Presidential Address, "there would have been present here to-night the oldest surviving, and indeed the first but two of the Presidents of the Association. My geological friends will understand to whom I allude —the Rock of Science, in whom age, and the heat and shocks of scientific controversy, have wrought no metamorphosis and

[1] To Sir J. F. W. Herschel, 12 June, 1869.

1868. developed no cleavage-planes—a man of whom both Norwich
Æt. 83. and the Association are proud—your Canon, our Father, Sedgwick[1]."

In October Sedgwick delivered his fiftieth annual course of lectures. The occasion might well have been celebrated as a jubilee; for his lectures had never once been interrupted since his election to the Woodwardian Chair. As he advanced in years, they seemed to animate him, and during the term in which he lectured he was frequently in better health than at any other season. "My lectures keep me alive," was his not unfrequent remark; and after one of the first of this very course he writes: "I addressed my class for a full hour with as much spirit and pleasure to myself as I did forty years since." In the opening lecture he showed that notwithstanding his great age, his mind had not lost its elasticity. He began, we are told, somewhat as follows: "Gentlemen, I have hitherto, in the successive courses of lectures delivered from this chair in the discharge of my duty as Woodwardian Professor, always maintained, in opposition to my distinguished friend, Sir Charles Lyell, that man, geologically speaking, is of very recent appearance on the earth. But, during the last Long Vacation, I have gone again over the whole evidence, including much new matter of great importance, and am now bound to admit that I can no longer maintain the position which I have hitherto held. I must freely admit that man is of a far higher antiquity than that which I have hitherto assigned to him. But, Gentlemen, I shall always protest against that degrading hypothesis which attributes to man an origin derived from the lower animals"—and then came a vehement denunciation of the Darwinian theory in its application to the human race[2].

In November he was saddened by the news of the death

[1] *Report* of the British Association, 1868, p. LIX. The Dean of Norwich had been particularly anxious that Sedgwick should preach before the Association.

[2] Communicated by Sedley Taylor, M.A. of Trinity College, who heard the lecture.

of John Ruthven. "I have had a letter," he writes on November 7th, "to tell me that my old companion in many a hardworking journey over the hills (good old honest John Ruthven) died yesterday in London. Little did I expect to outlive him! so strong was he last time I saw him; and he was six or seven years younger than myself. The news made me very sorrowful[1]." 1869. Æt. 84.

Not long after Sedgwick wrote these words, Lady Murchison passed away. For some years he had been completely estranged from her husband. Since the meeting of the British Association at Manchester in 1861 they had probably not seen each other; and the few letters that had passed between them were not of a nature to make reconciliation probable. Common friends had done their best, without success. "It is not a simple question of forgiving an injury," wrote Sedgwick. "I owe Sir R. Murchison no ill-will personally[2]." Murchison, on the other hand, had more than once expressed his own anxiety for reconciliation: "It would give me the sincerest satisfaction, if any explanation which I can possibly give would be acceptable to you, and put an end to an estrangement which for more than twenty years I have never ceased to lament[3]." To this particular letter—one of many expressed in nearly similar terms—Sedgwick probably sent no reply. But, when he heard that Lady Murchison was no more, the thoughts of former days came back to his mind, and, separating the man from the geologist, he wrote to her husband:

To Sir R. I. Murchison.

CAMBRIDGE,
Sunday Morning, *February 21st*, 1869.

Dear Sir Roderick Murchison,

I did not wish to intrude myself on your sorrows too soon. Indeed such has been my life of solitude for the

[1] To Miss Isabella Sedgwick, 7 November, 1868.
[2] To Lady Affleck, 25 September, 1862.
[3] From Sir R. I. Murchison, 7 January, 1869.

1869. Æt. 84. last two months, that incidents of the greatest interest to my heart have more than once passed away for a full week or ten days before their report reached me. You will, I know, believe me, when I say that the first news of your beloved wife's death filled me with very deep sorrow. For many many years Lady Murchison was one of the dearest of those friends whose society formed the best charms of my life. How often was I her guest! How often have I experienced her kind welcome, and been cheered and strengthened by it! In joy or in sorrow she was my kind and honoured lady friend.

And have I forgot those bright, and to me, thrice happy days, when she and you were my guests at Cambridge? The present has comparatively little for me now. Hope I have for the future, and I trust that God will give it to me in the last hours of this world's life whenever they may come. But an old man necessarily has his thoughts carried to the past. But oh! how many of the dearest and sweetest remembrances of my life are now blended with clouds of sorrow! It must be so. It is nature's own law. May God teach you to bear your sorrow like a man. Of this I have no fear; but more than this, may His grace be given you to bear it like a Christian. This sustaining power is His precious gift, and it must be humbly sought for, by prostration of heart, while under God's afflicting hand. May He give you the comfort of Christian hope; compared with it all other comfort vanishes into mid-air. And if it indeed be given you, sorrow will lose its bitterness, and even be tempered with joy....

I generally dictate my long letters to my servant, but in writing this letter of sympathy, addressed to you in your hours of sorrow, I could not find in my heart to use the pen of an amanuensis. My eyes are now very angry. I remain, in all Christian sympathy and goodwill, faithfully yours,

A. SEDGWICK[1].

In the spring of 1869 Sedgwick's niece Isabella took a

[1] The whole letter is printed in Geikie's *Life of Murchison*, ii. 337—339.

tour in Italy with some intimate friends. The plan had her uncle's warm approval; in fact he was the first to suggest it, and to combat her unwillingness to leave him and others to whom her help was needful. During her absence he kept her informed, by almost daily letters, of all that was passing in the home-circle. He seemed anxious to prove that he was as capable, as he was willing, to take her place. The minutest details are gone into. Comforts for the sick, schemes of education and amusement for the healthy, comments on passing events and current literature, suggestions as to what she should pay attention to on the continent, and comments on her descriptions, fill a series of delightful letters. The labour of writing them must have been severe, for during the spring months, as we know from another source, he could "hardly bear to read or write by daylight, and not at all by candlelight[1]." And yet, as though he wished to spare her all anxiety on his account, he says but little of himself in the correspondence. It will be readily understood that most of these letters are unsuitable for a biography, and we can therefore only cite one or two short passages from them. 1869. Æt. 84.

To Miss Isabella Sedgwick.

CAMBRIDGE, *April 14th*, 1869.

"The post of yesterday brought me two letters which gave me joy, and gladness of heart. One from Mary, telling me that she was better....The other was from Turin, and I darted on it like a hungry hawk upon a skylark. I had some little anxiety about your passage over Mt. Cenis. Thank God you have all made the *traverse* in safety. And how could you find time to write me such a long and charming letter, after such fatigue and excitement, and in the midst of such a succession of sublime objects? Don't you, and every one of you, feel better and nearer God for having been permitted to gaze upon all the sublimest features of His creation in our lower world?...Touching your uncle Adam, he's 'as

[1] To Archdeacon Musgrave, 19 June, 1869.

1869. Æt. 84. well as can be expected.' His eyes are much better, and he sometimes writes his own letters. His left knee is a downright cheat, for it looks well and healthy, yet it works ill; and if taxed beyond a few hundred yards, turns as restive as an old Irish post-horse...."

To the same.

CAMBRIDGE, *April 20th*, 1869.

"...For many a long year I have been dreaming of the Maritime Alps, of the Gulf of Genoa, of Rome, of Naples, etc.; and while dreaming of such glorious sights the evening of my days has been closing in upon me, and I am now, alas! quite incapable of joining my friends in such a tour as that from which you are reaping hourly joy, and feeding your senses and your imagination with sights and thoughts which, with God's blessing, will make you happier, and holier, and more loving to those around you to the end of your life....

Were you not struck with the cathedral at Sienna? It is said to be one of the finest specimens existing of the old Italian Gothic. And now you are all at Rome. Did not your heart beat higher when you saw the dome of St Peter's, and entered the streets of Rome? But you will tell me. And tell me your *first* impressions. They may be right, or they may be wrong, but it is charming to hear of the first impressions on the mind of those we love and can trust....

I am very happy in the belief that you are laying in a goodly stock of rational happiness. God does not permit me to cross the Alps in my old age. But He does permit me to gaze on the glorious scenery and historical monuments of Italy through the eyes of one whom I regard as my daughter...."

To Mrs Somerville.

CAMBRIDGE, *April 21st*, 1869.

My dear Mrs Somerville,

I heard, when I was last in London, that you were still in good bodily health, and in the full fruition of

your great intellectual strength, while breathing the sweet air of Naples. I had been a close prisoner to my college rooms through the past winter and early spring; but I broke from my prison-house at the beginning of this month, that I might consult my oculist, and meet my niece on her way to Italy. 1869. Æt. 84.

I do not wish to obtrude her (or any of her friends) upon you, that they should take up your precious time, but I know you will forgive me for my anxiety to hear from a living witness that you are well, and happy in the closing days of your honoured life; and for my longing desire that my beloved daughter (for such I ever regard her) should speak to you face to face, and see (for however short an interview), the Mrs Somerville, of whom I have so often talked with her in terms of honest admiration and deep regard....Since you and Dr Somerville were here, my dear and honoured guests, Cambridge is greatly changed. I am left here, like a vessel on its beam-ends, to mark the distance to which the current has been drifting during a good many bygone years. I have outlived nearly all my early friends; Whewell, Master of Trinity, was the last of the old stock who was living here. Herschel has not been here for several years. Babbage was here for a day or two during the year before last. The Astronomer-Royal belongs to a more recent generation. He is in vigorous health, and is now giving us a voluntary short course of lectures upon Magnetism. For many years long attacks of suppressed gout have made my life very unproductive. Any sedentary labour on my part is almost sure to bring alarming attacks of vertigo. I yesterday dined in Hall. It was the first time I was able to meet my Brother Fellows since last Christmas Day. A long attack of bronchitis, followed by a distressing inflammation of my eyes, had made me a close prisoner for nearly four months. But, thank God, I am again beginning to be cheery, and with many infirmities (the inevitable results of old age, for I have entered on my 85th year) I am still strong in general health, and capable of enjoying as much, I think, as ever, the society of those

1869. Æt. 84. whom I love, be they young or old. May God preserve and bless you! And whensoever it may be His will to call you away to Himself, may your mind be without a cloud, and your heart full of joyful Christian hope!

I remain, my dear Friend,

Faithfully and gratefully yours,

ADAM SEDGWICK[1].

To Miss Maribell Sedgwick.

TRINITY COLLEGE,

Wednesday, *May 19th*, 1869.

"...On Monday and yesterday I was engaged with a party of three American friends; Mr Norton, a well-known man of letters, Mrs Norton *née* Sedgwick, and her sister Miss Sedgwick, of Cambridge, Massachusetts. They are very agreeable, well-informed, persons and I think they were happy while here. Mr Norton was delighted to meet two or three of our clever men, with whose works he was well acquainted...In the evening the Ray Club will assemble in my rooms. It is a melancholy thought that this will be my last Club meeting. For the infirmities of old age compel me to resign my place in the club. The chief object of the meetings is to discuss subjects connected with Natural History...."

A friend who was present at one of the parties Sedgwick gave on this occasion, remembers that he entertained his American cousins with the hilarity and vigour of twenty years before. And he himself wrote: "I think we were all very happy. I can answer for one. We mustered ten—a pleasant, noisy, merry party, with some good talk about books, old and new."

To Miss Kate Malcolm.

CAMBRIDGE, *May 25th*, 1869.

"...My lameness continues. I am incapable of taking the wonted exercise by which I used to fight against my old

[1] Printed in *Personal Recollections of Mary Somerville*, 8vo. Lond. 1873.

and inveterate enemy in the months of spring and early summer—suppressed gout. From the crown of my head to the soles of my feet I am penetrated, at this season, by gout. It prevents all kindly emotions; makes me sour and selfish; incapable of labour, yet never at rest; dull as ditch-water, yet abominably irritable and waspish; incapable of continued thought bent to any good purpose; my memory refusing to do its hourly duty, yet stored with gloomy, worthless images; my moral sense perverted. Such has been my state lately for several hours of each successive day. By a strange physical perversity I am restless while in bed, and stupid while I am up. Several times, while writing this sheet, I have been nodding through much sleepiness. If the weather were genial, I could drive about in a carriage, and I should hope, like a snake, to come out of my miserable envelope and become myself again. So enough—more than enough—about the old Adam...." 1869. Æt. 84.

To Miss Isabella Sedgwick.

CAMBRIDGE, *June 17th*, 1869.

"...The College is now nearly empty; but this was, in former times, a gay season, because the young Masters of Arts were compelled to appear personally to be what was called *Created;* a form by which they were entered in the University books as *Gremials*, and gained their votes in our Senate. Without such appearance, they were called *Non-Gremial Masters of Arts*, and had no votes. All this needless cost was done away after the last revision of our statutes, when I sat, as you know, upon the Royal Commission. At this season, in bygone days, all was bright and gay, as the young M.A.'s often brought their wives and sisters, and we had a week of festivities, and dances, and concerts; and, every third year, there was a *Grand Commencement*, when we had, during the week, three Oratorios and one or two concerts. At these festivals I heard Billington, Catalani, Bartleman, Braham, etc.—persons in their way unmatched. I declare they seemed to lift the audience off the earth. But I had

1869. Æt. 84. more levity then than now, and was, on that account, more easily lifted...."

To Mrs Norton.

CAMBRIDGE, *June 21st*, 1869.

"...During the whole of the past week we were busy with the great debate in our House of Lords. My eyes were not equal to the task of reading it, but I listened to my servant, who has learnt to read well for me, and he read to me nearly all the leading speeches. They prove that the might of eloquence has not left our Upper House; and they have come to a right conclusion. The Established Church of Ireland was a portentous anomaly in English history. But it is easier to pull down than to build up, and with the bold democratic spirit of Bright and his party, who have not a grain of patriotic respect for the old institutions of our country, I look forward to coming events with much anxiety...."

To Mrs Norton and Miss Sedgwick.

LOWESTOFF, *July 8th*, 1869.

"...I was just going to end by signing my name when I glanced at the two letters before me. One of them (if my eyes cheat me not) ends with the words *Sara* Sedgwick. I have another young unmarried cousin who lives at Caithness at the very northern extremity of Scotland. She signs her name *Sara* Russel. Old men like myself love old customs and old names. If Abraham was the father of the faithful, his lawful wife was the mother of them. His name was a name of honour, and her name, *Sarah*, was given her by divine appointment as a name also of honour. It means Queen, or some rank of high chieftainship. Why then be ashamed of a name that dates very nearly 2000 years B.C.; a truly aristocratic date that puts to shame all the aristocratic blazonry of Europe? Besides, I have a great affection for the letter *h*. It introduces us to health, happiness, and heaven. I am a deaf old man, but, had I a hundred ears as good as those of my dear New England cousins, without

the letter *h* (at which they saucily turn up their noses) I could get no hearing out of them. Forgive this trifling—'take it not in snuff,' as Shakespeare says...." 1869. Æt. 84.

To Charles de la Pryme, Esq.

TRINITY COLLEGE, CAMBRIDGE,
November 3rd, 1869.

"...Your late father was one of my old friends. I remember him as a kind friend in my schoolboy days, when he was reading mathematics with Mr Dawson of Sedbergh. He was at Cambridge five years my senior, but in after-life we always pulled well together, and for him and your dear mother I had a very kind regard. And it seemed as natural as the rising of the sun that I should have a true-hearted feeling of brotherly love for their children. I do sincerely and heartily rejoice at the news you have sent me. May the happiest fruits of Christian love be showered upon you both to the end of life! You have made up your minds, you have exchanged hearts, why therefore should you and the dear Sophia wait a single day? I don't write *Miss;* one cannot sound the word without hissing in a lady's face. Why, I say, wait another day? In God's name, and in God's love, marry, and be thrice happy! I send you both an old man's blessing —the blessing of your late father's oldest living friend...."

To this letter Mr Pryme appends the following anecdote. "I remember Professor Sedgwick coming to dine at my father's house at Cambridge to meet a gentleman who belonged to a celebrated Unitarian family. In the evening he ventured on a controversial excursion, little knowing who was listening. Sedgwick listened for a while, and then broke out with great vehemence: 'Sir! rather than attack and mutilate the Scriptures as your Unitarian friends do, I would prefer to disbelieve the whole Book of Revelation as an Inspired Work, and to put myself at once on my moral conscience as a guide for life and conduct!'"

The two next extracts have reference to Sedgwick's lectures for this year.

1869. Æt. 84. *To Miss Isabella Sedgwick.*

CAMBRIDGE, *November 6th*, 1869.

"...Yesterday I gave my eighth lecture, with great pleasure to myself, and I believe with pleasure to my class of both sexes, for I have at least a dozen steady pupils of the softer sex. Yesterday the petticoats mustered full twenty, and the pantaloon-wearing bipeds about thirty. When I had done my regular lecture of an hour and a quarter, I went down to our basement floor to shew the big skeletons, and bones that are too big to be brought up to my lecture-room, and then I gave a kind of second lecture. So that I did not get back to my rooms before 2 p.m. I *was* a little tired, but not too much to enjoy my simple good dinner at 2.30 p.m.; and through the evening I was quite canty...."

To the same.

November 26th.

"...I begin to think I see land. Three more lectures about strata and fossils, and a general concluding lecture to-morrow week will fairly land me; and I have stood the course right well. It has, in very truth, done me much good. When I am lecturing I am in a state of nature—a second nature which is the child of custom—and I think after fifty annual courses I may talk of custom..."

To the same.

CAMBRIDGE, *November 8th*, 1869.

"...On Saturday last we celebrated the Anniversary Dinner of our Philosophical Society. Last year I did not venture to attend the dinner, but this year I had better heart, for it was our Jubilee....I am now the only one left of the original members of the Society....As a matter of course they drank my health. I spoke at some length, and my speech was received with hearty acclamations. I went in a carriage, well muffled up, and caught no cold; indeed the Combination Room of Clare College (which was given to us upon the occasion) was beautifully warm...."

1869. Æt. 84.

In the course of this year the question of the abolition of University Tests had once more come to the front; and a meeting of those in favour of such a measure was held at St John's College Lodge (29 November) with the view of discussing the most appropriate method of bringing their views under the notice of the Government. Sedgwick, as one of the few survivors of those who had made an unsuccessful movement in the same direction in 1834[1], was of course invited to be present. It was a question respecting which his opinions had undergone no change, and he eagerly accepted the invitation. The first resolution was proposed by the Master of Trinity:

> That in the opinion of this meeting the time has come for settling the question of University Tests; that the mode in which this question is dealt with in the Permissive Bill introduced by Sir J. Coleridge is open to grave objections; and that any measure designed to effect such a settlement should include an enactment that no declaration of religious belief or profession shall be required of any layman on obtaining a Fellowship, or as a condition of its tenure.

This was seconded by Sedgwick, who gave a brief history of University tests—with a graphic account of the movement of 1834—and ended with some such words as these: "Though I have outlived my friends, and now belong to no party, I have not outlived my love of liberty. I believe that the removal of tests would tend to perpetuate our great institutions. Fears have been expressed of the possible predominance of Dissenters. That is a white-livered opinion. If Dissenters should command a predominance of the intellect of the nation, let them take the place to which they are entitled. I am a Churchman because I believe the Church of England to be right; but I deprecate the University hiding itself in any little nook of prejudice out of the general spirit of the community[2]."

This was Sedgwick's last appearance on a public occasion in Cambridge.

[1] See above, Vol. i. pp. 417—425.

[2] *The Cambridge Chronicle* and *The Cambridge Independent Press*, 4 December, 1869.

CHAPTER VII.

(1870—1873.)

SEVERE ATTACK OF BRONCHITIS. LAST VISIT TO DENT. SPEECH AT NORWICH. FIFTY-SECOND COURSE OF LECTURES (1870). EMPLOYMENTS OF HIS OLD AGE. LAST DINNER-PARTY. PURCHASE OF LECKENBY COLLECTION (1871). INTEREST IN THE MUSEUM. PREFACE TO SALTER'S CATALOGUE (1872). LAST WEEKS. DEATH AND FUNERAL. DEAN STANLEY'S SERMON. MEMORIAL AT CAMBRIDGE. MEMORIAL AT DENT (1873).

PERSONAL APPEARANCE. PORTRAITS. LECTURES. REMINISCENCES OF DAILY LIFE.

SEDGWICK began the year 1870 with unusual cheerfulness. He felt well; and was employed in writing the *Appendix* to the *Memorial*, a task which he found neither disagreeable nor fatiguing. "You see I have returned to work again," he wrote, "and to-day I have dined in Hall—quite a new thing; and I do hope that I shall be able to continue to do so, for indeed I am heartily tired of dining by myself, as I have done almost ever since we broke up from Norwich. Our big Hall was magnificently lighted, and only five persons to sit down at the Fellows' table, and very few undergraduates! In my time comparatively few went away during the Christmas and Easter vacations, but the railroads have made such a change! While I was an undergraduate I never went up to London—nay, I never saw London till I was Fellow of Trinity College, after six years of University residence!

What do you think of that?...I lead a very solitary life during this dead part of the vacation, and my door is seldom opened except by John or my bed-maker. But the frost has never found its way into my rooms. My feet are kept warm by a good fire; my heart keeps warm of itself[1]." 1870. Æt. 85.

These bright days were soon clouded by a long and serious illness—an attack of bronchitis which nearly brought him to the grave, and from which, in fact, he never wholly recovered. It was evidently something quite different, both in severity and in duration, from those milder seizures to which he had long been accustomed. "I never knew what bronchitis was before," he told his niece. She hastened to Cambridge to nurse him, and by the end of March he considered himself convalescent.

To Lady Augusta Stanley.

April 2nd, 1870.

"...Yesterday was a great day for me. I went out into our Great Court (after a close confinement of more than six weeks to my College rooms, during which I never once crossed my threshold); and I felt such joy that I went on to my Museum, and rested there awhile, and saw the remains of some ancient monsters. But my knees failed me a little as I came back, and I had hard work to climb to my own door. Thank God! I am now gaining strength hourly, and so soon as I am fit for travelling I hope to station myself at some warm place on our south coast, that I may be fanned by the zephyrs, and have my ricketty framework warmed into a new life...."

Soon afterwards, taking his great-nephew with him, Sedgwick went for a few days to Bath, where his progress, if his own report may be trusted, was wonderful. His spirits rose to their usual high level, and he describes a visit to Salisbury, "the queen of British cathedrals," as though he did not know what illness was. But the improvement was

[1] To Miss Maribell Sedgwick, 6 January, 12 January, 1870.

1870. Æt. 85. transient. He was ordered to Bournemouth, but the visit was a failure. Instead of helping him forward it thrust him back; and he returned to Cambridge little better than he had left it. "One great change I find this year," he wrote soon after his return; "I do not recover my former strength after I have ceased to be ill. I come to a resting-place, but that resting-place is at a lower level than the one on which I had been lately standing. This shews me that my vital powers are now on the wane. Every day reminds me of this truth, sometimes very oppressively; but I endeavour to look up, cheerfully and hopefully, and to be thankful[1]."

To Miss Duncan.

WINDERMERE, *June 9th*, 1870.

"...I could not recover my health and natural spirits till the wind chopped round to the west. But that change acted on me like magic. My spirits and senses were alive again, and I longed to be in Dent, which I had not visited for two years. I really felt a home sickness (what the doctors, I think, call a *nostalgia*) with painful intensity. But I was detained one week by a promised visit from Dr Lushington; and a visit from a retired judge—a Right Honourable, and in his 89th year—was no ordinary event. When quite a young man he had rambled over our hills and dales, and had shot grouse from his head-quarters at Gearstones—a wild little inn on the road from Dent's Head to Settle. It happened that he had seen a copy of my pamphlets about Dent, and felt a great desire to pay me a visit, that we might talk about the Dales, and that he might once more have the pleasure of dining in the Hall of Trinity College. This was told me by his son. So I joyfully sent an invitation to them both; and they came on the 31st of last month. The old man passed a very genial day amongst us, taking a leading part in a varied conversation in the Hall and Combination Room, and continuing it in my rooms afterwards till I was

[1] To Miss Duncan, 21 May, 1870.

almost exhausted—to my shame, for the Doctor is almost four years older than myself...." 1870. Æt. 85.

The visit to Dent—the last he was ever able to effect—was a very short one. He was lame, and unable to walk about among his old friends as heretofore. It happened that the annual school-feast took place while he was there, and before the children left he mounted on a stone bench in the yard of the vicarage, and gave a very impressive address.

To Miss Herschel.

NORWICH, *August 26th*, 1870.

"...After my visit to the Dale of Dent came to a natural end, I was tempted to go with Isabella and one of my young great-nieces to a sweet village on the north shore of Morecambe Bay. Though the north winds still were dominant, yet the weather was dry; and 'tis a damp wind that tortures the hygrometrical skin I owe to an old hag of a midwife. I will let you into a secret! In the year 1785 I was introduced into this wicked, freezing, and fighting world by an aged midwife, who wrapped my youthful person in a hygrometrical envelope, which stuck so tightly to me that (with all my rubbing, scraping, kicking, and plunging, for 85 long years) I have never been able to shake it off. Here it is—creased and fretted a little—but as close a fit as ever!

So we all enjoyed ourselves at the sweet hotel of Grange. O 'tis a lovely country! The grey solemn-looking Carboniferous Limestone is the prevailing feature, soft-toned and exquisitely varied by sweetest natural woodland fringing the shores of the famous Bay. Though I had hammered my way through all corners of the neighbourhood in by-gone years (especially 1822 and 1824), and had many times taken peeps at it during my short northern visits of love and duty; yet it was now to me a new country, threaded by railways and covered by towns and villages, where in your old uncle's early days all was in silence and solitude. But this was not all, for in multitudinous nooks and corners, instead of sweet scenery

1870. Æt. 85. and a bright atmosphere, we saw gigantic furnaces sending into the sky a vapour so dark, that it seemed to have come from the nostrils of Satan. In many places the ground was blood-red; and all around us smelt of fire and brimstone. In fact our sweet village, the Grange—a name telling one of corn and rural comfort—borders on Low Furness—a country long famous for its iron ore; and truly now, on actual proof, many parts of its surface-deposits are almost a mass of red iron ore (hæmatite). This ore they are digging away at a rate which would pass belief without the evidence of living sense. Some of the red ore goes, of course, to feed the throats of the gigantic furnaces in the neighbourhood. Other portions are transported by the railway which skirts Morecambe Bay and Duddon Sands. Day by day, forty-four gigantic trains (each composed of carriages varying in number from 50 to 70) were seen dragging their almost endless length and gigantic loads majestically along the undulating line close to the beautiful shore. But we had, each day also, four regular passenger trains, and charming it was to be playing in such trains a game at bo-peep with old father Ocean—a minute or two sweeping along his gently rippling shore—then a grand headland in view against which he wages an eternal war of foam and fury. But we took a shorter and quieter line, and shot our way right through the headland. A few minutes of darkness, and then again the bright air and the sparkling sea. We could go to Furness Abbey in about half an hour, passing the fine scenery of the coast of Ulverston—then on through multitudinous iron-works and ore-pits—then by the ancient town of Dalton, in my early years a neat village, now a wonderful *congeries* of houses. Again on to the westward—for a while once more in pitchy darkness, and then daylight breaking out in the very heart of the sweet grounds that skirt the magnificent ruins of the old Abbey. We several times visited this ground of enchantment, and twice we went on to Barrow—in my working-days a very small fishing village—now a town of about 18,000 inhabitants, and hourly increasing.

And instead of the sweet clear sky of olden times it has an atmosphere like that which overhangs the steam furnaces of Leeds or Manchester...." 1870. Æt. 85.

During Sedgwick's residence at Norwich in August and September, despite a third attack of bronchitis, he took a prominent part in a meeting convened by the Mayor to press upon the Government the urgent necessity and importance of taking effective steps to prevent the exportation of arms and all articles contraband of war to either France or Germany. He moved the second resolution, embodying that policy, in a long and most effective speech. He reminded his hearers of our difficulties with the United States on a similar question, and urged that the report of English manufacturers having contracted to supply arms to France should be sifted to the bottom. "This question of neutrality," he said, "was not one for the judge or the lawyer. It belonged to the principle of honour. To go to a man who was ruled by precedents and written law, was to go to one who, from those very circumstances, was partly incapable of judging on a question which concerned honourable, true-hearted, Christian conduct between nations. Burke, he remembered, said in one of his eloquent speeches: 'When you come to a great constitutional question, you will not go to a lawyer; the law, when applied to a question of that kind, is the Chinese shoe of the human intellect!' And so it was. For his part he would prefer the opinions of any honest-hearted, patriotic yeoman, whose mind was enlightened by reading—he need not be great or learned —and who deserved the name of a Christian gentleman—the word 'gentleman' he used in a broad sense, for many a poor man had the heart of a gentleman—to that of one who consulted a pack of rustling parchments—for he was more likely to be the better judge." In conclusion he pointed out the great changes that had taken place within his memory in Europe and in the world, and shewed that the old laws of neutrality needed revision—that attention ought to be paid

1870. Æt. 85. to great principles, and that the law of conscience should be reverted to—"a law," he said, "more operative in arriving at the truth than all the blotted written documents belonging to mediæval history."

On his return to Cambridge at the beginning of October he felt well enough to attempt his usual course of lectures. "My sweet voice," he wrote, "has lost all its notes of melody. For three bad attacks of bronchitis, which tormented me since this year came in, have so becracked my voice that it sounds like a watchman's rattle, and I fear it will never mend. But, spite of these drawbacks, my modest assurance is still kept, and this very day I have sent a notice to the Press of my intended course of lectures; which (D.V.) I mean to open on the 24th of this month. If I give the course it will be my fifty-second, and undoubtedly my last. This does sound strange; but it is no matter for boasting—nay rather it is a thought that should fill my heart with thankfulness; and there is sorrow too in the thought that it must be my last course[1]."

When he wrote these words he probably hoped that he might be wrong. But he had estimated the failure of his powers only too correctly. He did deliver the course, and, so far as we can make out, with spirit, and no great pain to himself. But the closing lecture, in which he "attacked the materialists," was really the last he ever gave. In the following year he was compelled to seek the assistance of a deputy, Professor John Morris.

To Lady Lyell.

CAMBRIDGE, *December 25th*, 1870.

My dear Lady Lyell,

Christmas Day! and I am beginning the day by doing what I can seldom do with impunity. My eyes do not commonly allow me to write my own letters. Let me then be as short as I can.

[1] To Lady Augusta Stanley, 13 October, 1870.

1871. Æt. 86.

First, I send my Christian love and best greetings to all in your house. May this be a thrice happy and a blessed season to you all! *Next*, I request Sir Charles (your *maëster* as we always call the husband in Dent) to communicate a similar message to Murchison, if he be well enough to receive it; and I have heard from time to time that he is better. Lyell need not say *thrice happy*, but he surely may say a *blessed* Christmas —and a Christian can feel joy even in the midst of sorrow.... I am here living almost in solitude—yet my spirits are, on the whole, cheerful, and I try to thank God for His long-continued mercies to me. Again, a thrice happy Christmas!

Ever your affectionate old friend,

A. SEDGWICK.

The concluding lines of this letter give a graphic epitome of the last two years of Sedgwick's life. They were passed in his rooms in Trinity College, in the monotonous routine to which an invalid must inevitably submit, but which, in his case, was submitted to with resignation, and daily "thanks to God for the many temporal comforts" by which he was surrounded. Casual observers—friends who paid short visits —spoke of his cheerfulness, and probably noticed but little alteration since they had seen him last. Like a massive medieval stronghold, which preserves its contour unshattered, and from a distance betrays no sign of the ravages of time— he could still conceal, except from those who saw him from day to day, that he was really a ruin of his former self.

His eyes were now so weak that he could neither read nor write for long together. Occasionally, in the bright light of morning, he got through a few pages of some book, or a leading article in *The Times*, but he was soon obliged to desist. "My eyes are very impatient when I attempt to write," he says in 1871; "the mere act of leaning over the paper seems to produce a congestion of the vessels within my eyelids, and thereby provokes their irritability; and it makes

1871. Æt. 86. me nervous to look upon the tracings of my pen, while I do not see distinctly the words they are meant to form." It was not to be expected that one who had been throughout his life so prolific a writer of letters, would not do his best to continue his favourite occupation. He was obliged, however, to dictate all except the most private. Here is his portrait, drawn by his own hand, while thus engaged, just a year before the end came.

To Miss Kate Malcolm.

February 10th, 1872.

"...Fancy me at this moment sitting in an easy arm-chair, with my left leg resting upon a gout-stool, and my right hand holding a gilded ear-trumpet to my right ear, while I am dictating this letter to John, and you will have the first outline of my picture. But, to fill it out, you must put a silk shade over my eyes, and a bright blue silk night-cap upon my head; and, to finish the lower part of my face, you must fancy my nose and chin doing their best to kiss one another. For my natural teeth, excepting two stumps, are all gone; and from a nervous affection of my gums I am now incapable of using my false grinders—which sadly spoils my beauty. My cheeks are red, not from the flush of health, but from a malady which gives me much uneasiness, and, at one time, I thought I was going to have a regular bottle-nose—but that rubicund honour will, I think, be denied me.

My mental condition is worse than that of my senses, for my memory is little better than a lumber-room, and the active powers of my mind have become half-torpid from lack of vital use...."

To some member of his own family—usually his niece Isabella—he wrote nearly every day with his own hand, generally very early in the morning, assisted by spectacles and a strong lens, and his first letter was generally his last for the day. These letters, dealing as they do with the most private circumstances of his life—his symptoms, his

medicine, his food, the employment of his time through every hour of the day—give a vivid, and on the whole a cheerful, picture of his old age. "I keep up my spirits pretty well," he writes, "by thinking of the past and by cherishing hopes for the future, and by reading the letters of my nieces and grand-nieces, who write good round hands to suit me. I am not unhappy—I have learnt to feel a pleasure in sitting still in my armchair. But I am in the decade of labour and sorrow, and I must regard this trial as for my good, if I use it as an aged Christian ought to do." These were no empty words, introduced to round a period. He wished to prolong his life, because he felt that he was still of use to those whom he loved, and every letter he wrote bears witness by an enquiry, a present, or a suggestion, to his considerate thoughtfulness for them. He never grumbled; he submitted to his trials as a cross laid upon him by the Almighty. 1871. Æt. 86.

His infirmities would not allow him, to his great sorrow, to attend the services in the College Chapel; and it became his daily custom to have the morning and evening lessons read to him; the Psalms and some prayers he read to himself. "I long for acts of social worship," he wrote to his niece, "I try to do what is right, but how powerless I am in governing my thoughts as I would wish! and how soon I flag in my attention!" The new Lectionary, then just coming into use, gave him much satisfaction; and he often devotes a long letter to recording the thoughts suggested by the chapters he had listened to, or by some recent edition of the New Testament or one of the Epistles which had come in his way. Difficulties in interpretation, or in the chronology of the Life of Christ, are not seldom discussed at length, with much acute criticism.

His deafness was to a great extent compensated for by the skill of his servant, who had learnt the pitch of voice that suited his master's ears, and read to him for several hours in each day. By this means he kept himself informed of what

1871. Æt. 86. was passing in the outer world; and he followed with keen interest the Franco-German war, the Tichborne case, and the debates in Convocation. His comments on this latter subject are worth quotation: "The debates carried on in the Houses of Convocation often fill me with amazement: sometimes they are dull enough—a kind of pious wind-bag which ought to stuff a hassock. Then they expose to view seared mediæval knick-knacks of antiquated pattern. Then come tricks of art, and new terms of a new logic. Then comes a fermentation and a fire, such as transforms men's nature, and makes meek men into sons of thunder. Does it not seem to you that common-sense has of late seldom found a chair to sit down on within the limits of Jerusalem Chamber?"

Still there were long weary hours in which he sat alone in his easy chair. At such times his thoughts would often revert to Dent. Little by little he became convinced that he should never see it again. "I now despair of realizing my day-dream of a happy visit to the dear dales of your neighbourhood. More than once, while writing this letter, my eyes have been filled with tears while the dark shade of thought was passing over my mind—that I might never again be cheered by the sight of my dear native dale, and the home of my childhood." It had always been his custom to send a generous contribution to the poor of Dent at Christmas; but now, as though to compensate himself for his enforced absence, he sent a larger sum; and when any special event occurred—as the funeral of one whom he had formerly known—his purse was at all seasons open.

The loss of society—not that formal society which comes by invitation—but that of friends who drop in for half an hour's conversation, was a sore trial to him. "No one thinks of calling on such a crabbed, half-blind, half-deaf old dotard as myself"—he said; and he valued very highly the kindness of "a benevolent lady-friend," who did call occasionally. "Such visits are like sunbeams shining through a fog." A visit from Sir Richard Griffith—his companion in old days in

many happy expeditions, gave him much gratification. "He came to see me," he tells his niece, "as an old geological friend. I think you do not know this happy genial old Irishman, who is six months older than I am, yet is up to anything in bodily activity—has good sight, perfect hearing, and the complexion and manner of a young man[1]." Once, when the Dean of Westminster and Lady Augusta Stanley were visiting the Master (Dr Thompson) he ventured on a dinner party—the last, as it proved, that he ever gave. 1871. Æt. 86.

TRINITY COLLEGE, *November 25th*, 1871.

"Well! now for my party last Thursday. Four from our Lodge; four from St John's Lodge; two from Catharine College Lodge. So we have ten. Add Dr Lightfoot, Professor Munro, and Clark our Vice Master, and we muster fourteen. Mr Luard and two ladies (friends of the Dean) came afterwards. I gave them a good dinner, and the party was a very merry and happy one—plenty of good talk. When the ladies retired from the table I went down to rest in Munro's room for three quarters of an hour, after which John came to bring me a cup of coffee, and to tell me that the gentlemen had joined the ladies. So again I put on my wonderful mufflers and went up to the party. Nothing could go off better. Plenty of talk and good of its kind. Lady Augusta was in excellent spirits, and so was the Dean. They had all left me before 10.45.

Saturday evening. John has just left me after our short evening service. My poor old eyes will not let me read. But I can write a little longer what I hardly look at. To-day I have spent two and a half very pleasant hours talking with Lady Augusta about their continental tour...."

Now and then, in summer weather, he found his way to the college walks; but even there the infirmities of old age stood in the way of his full enjoyment.

[1] To Miss Isabella Sedgwick, 20 June 1872.

1872. Æt. 87. *To Miss Isabella Sedgwick.*

May 2nd, 1872.

"...The weather here is most beautiful, and I have profited by it. I yesterday evening walked to the private walks of the Fellows, and walked all round them. And I returned without fatigue. This was my longest walk in 1872. But alas! I cannot hear the birds singing round me. The death-like silence of our walks was painful to me; but I hoped to help my dull ears by using my ear-trumpet. It was of no use to me. Not a bird could I hear, though scores were singing. I was, however, thankful to hear, on my way back, the cawing of the rooks which build in some of our college walks.

I was grieved not to hear the sounds of the little piping voices of the children who were playing by scores behind the college. But, on the application of my trumpet, the merry sounds revived in my dull ears, to my great comfort...."

In these years, as in the prime of life, his chief employment and pleasure was derived from his Museum. The loss of Mr Lucas Barrett was a severe blow to him, both personally, and from a scientific point of view; but in his successor Mr Seeley he had found an able coadjutor. Nor did he content himself with merely engaging others, at an expense he could ill afford, to work for him; whenever it was possible, and often when it would have been more prudent to have stayed at home, he might be seen wending his way, by the help of his crutch-stick, from his rooms to his Museum, to inspect personally the arrangements that were going forward. He could still give very valuable help to those who knew how to profit by it. One who worked there for a while remembers that when asked about the locality of some specimen, the label of which was half-obliterated or illegible, he would sit down and say: "Ah! I am no good now; I could have told you all about that once, but now my head is all confusion." Then, he would turn the specimen over, and say: "Stop! let me see, I think I remember. As you are going down such

and such a pass etc.," pouring out a mass of geological and topographical information which shewed that the whole scene and its teachings were clearly impressed on his mind. "In his best days," says our informant, "his memory must have been marvellously accurate." 1872. Æt. 87.

In 1871 a very valuable collection was offered to the University. As on former occasions there were no funds available for the purchase, and Sedgwick made an appeal to private generosity. In a few weeks he learnt, "with an emotion," he says, "of grateful joy, such as I have not felt since the brightest and happiest days of my youthful life"—that the sum required, with a surplus sufficient to defray the cost of a cabinet, had been subscribed[1], and in his next *Report* (March, 1872) he was able to announce the safe arrival of the specimens. His appeal, as being almost his last utterance on behalf of the Museum to which he had devoted the best energies of his life, is printed without abridgement.

To the NOBLEMEN and GENTLEMEN of the University of Cambridge, and especially to the HEADS of Colleges, the Members of the COUNCIL, and the Members of the SENATE, the following Statement is addressed by their very aged and infirm, but very affectionate and grateful Servant,

ADAM SEDGWICK.

THE old *nucleus* of the present Geological Museum is of considerable antiquity. It came to the University of Cambridge, partly by the bequest of Dr Woodward and partly by purchase from his executors, about the year 1727; but it was in a good measure formed during the latter part of the preceding century. This collection is still entire (with the exception of a few specimens that have undergone spontaneous decomposition), and is preserved with its copious Catalogues in one of the closets of the present Museum, as an object both of scientific and historical interest.

The present Geological Collection was begun by the writer of this Statement in the year 1818; and by his personal labour continued for many succeeding years, by the kind and generous assistance and munificence of academic friends, and by various purchases made by the University, it has become what it is—one of the noblest

[1] The total subscribed was £1,013. 7*s*. 0*d*.

1872. Æt. 87. collections, so far as regards British Geology, that exists in England. I do not compare it with the gigantic and unrivalled collections in the British Museum; but, as a collection for study and for practical use, I think it inferior to no collection existing in this island; and of late years it has become more and more frequented by persons devoted to the study of the Natural Sciences. But Geology is a very progressive science, and there are gaps and defects in our collection which must be supplied, if it is to hold its present high rank among the Museums of England.

A grand occasion, such as may never again be met with, now presents itself. Mr Leckenby, of Scarborough, offers to transfer his entire and beautifully arranged collection to the Woodwardian Museum for the sum of £800. Many scientific persons (and among them I am happy to name Professor Morris) have declared this collection to be of its kind unrivalled. It has been formed during a good many past years by Mr Leckenby, at a cost many times greater than the sum above mentioned; and our assistant Curator, Mr Henry Keeping, an excellent judge on such a question, regards it of inestimable value as an addition to the Cambridge Museum, and thinks that it is offered on terms much below its value. It is most strong where the present Cambridge collection is most weak—that is, in the Mesozoic or Oolitic series of this Island.

All the specimens, amounting to more than 4000, are of the choicest character. For many Mr Leckenby paid 20*s.* each, for some £5 each; and indeed on his favourite object he appears to have spared no cost.

After having given my annual Lectures for 53 years, without a single break in the series, I have been compelled to entreat the University to appoint a deputy to give my annual course; and Professor Morris, a name well known and honoured by all the geologists of Europe, is now, under University appointment, filling my place in the Lecture-Room.

With thankfulness to God for the past, I know well that I must soon be called away from all earthly duties; but it would cast a gleam of light on my declining days, and fill my heart with good hope for the future of Cambridge, could I see the noble, and in many respects the incomparable, collection of Mr Leckenby placed in our Museum.

I write this statement with the strongest feelings of love and reverence for the whole academic body, and for that College which has been my home, now for the long period of sixty-seven years; and I cannot but earnestly and confidently hope, that what I have now recommended to the University may become an accomplished fact, honourable to the present history of the University, and a pledge of permanent security to its good foundations that are laid in the interests of knowledge and of God's truth.

TRINITY COLLEGE,

Nov. 23, 1871.

The Collection, of which the history is sketched in the above document, had accumulated with great rapidity, and, while this accumulation was proceeding, it was obviously impossible to prepare a detailed catalogue of it. Of one portion—that containing the fossils of the palæozoic rocks—a catalogue had been published, as already narrated[1]; and Sedgwick had for some years ardently desired that similar catalogues for the rest of the Collection should be proceeded with as rapidly as possible. "A collection," he said, "is of comparatively little use, and is never safe from spoliation, without a catalogue." Such a task is, however, very laborious, and, of necessity, slow, as it must be preceded by the determination of the specimens to be recorded. To this cause must be ascribed the delay in the work on which Mr Seeley was engaged; Sedgwick, on the other hand, was impatient for the appearance of the printed catalogues, and inquiries after them are of frequent occurrence in his correspondence with his assistant. "My day is nearly done," he writes in 1867; "and I am more than ever anxious about the catalogues;" and again in 1868, "How is the Reptile catalogue going on? With me catalogues are the things most needful. Long have I longed for them with long-suffering; but I fear that I have longer to long!" In 1869, however, the *Index to the Fossil Remains of Aves, Ornithosauria, and Reptilia, from the Secondary Strata*, was ready; and Sedgwick contributed to it a short *Prefatory Notice*, giving a history of that part of the Collection. While this work was proceeding, Mr Salter, whose name has frequently occurred in our narrative, was attacking the Cambrian and Silurian Fossils, but his work was irregular, and frequently interrupted by long absences. Other friends were giving assistance with other groups, and with the collection of rock-specimens. Their labours, with the specimens added, are noticed in Sedgwick's valuable *Reports*, presented annually to, and published by, the Museums and Lecture Rooms Syndicate, a body first appointed in 1866.

1872. Æt. 87.

[1] See above, p. 305.

1872. Æt. 87. When Sedgwick went into Residence at Norwich in 1872, he took with him the proof-sheets of Salter's catalogue, prepared and corrected for the press with great labour by Professor Morris, and composed a *Preface* to it. This work, completed just four months before his death, is full of interest. As the specimens catalogued were Cambrian and Silurian fossils, he is naturally led to give an account of his own labours in those fields; and, in fact, the *Preface* supplies us with the most detailed information we possess about what he did in each year of the most active portion of his geological life. Its value, from a biographical point of view, has been shewn already by the numerous quotations made from it. It has, however, a scientific value as well; for after the conclusion of the historical portion, Sedgwick passes into a discussion of the controversy that had arisen respecting the true boundaries of Cambria and Siluria, and defends his own position in dignified and temperate language. The *Conclusion* may be fitly described as his farewell to the University and the world. He dwells with gratitude and thankfulness on the realization of his hopes as to the progress of geology in Cambridge; and on the lessons which it had taught him, and which he had laid before his class in his annual lectures. "It was my delightful task," he says, "to point out the wonderful manner in which the materials of the Universe were knit together, by laws which proved to the understanding and heart of man that a great, living, intellectual, and active Power must be the creative Head of the sublime and beautiful adjustments and harmonies of the Universe." Thence, by a natural transition, he considers Man, and his position in reference to the Universe, and concludes with the following passage, a summary of the teaching of his life.

That Man in his animal nature is to be counted but as one in the great kingdom of things endowed with life, we at once admit; but that in the functions and powers of his intellect (here just touched on by my feeble hand) he is absolutely removed from any co-ordination with the lower beings of Nature, is, I firmly believe, one of the most certain of well apprehended truths. We all admit

that Nature is governed by law: but can we believe that a being like man is nothing but the final evolution of organic types worked out by the mere action of material causes? How are such organic evolutions to account for our sense of right and wrong, of justice, of law, of cause and effect, and of a thousand other abstractions which separate man from all the other parts of the animal world; and make him, within the limits of his duty, prescient and responsible. 1872. Æt. 87.

The facts and sentiments connected with that which marks Humanity,—the works of man's hands, the visions of his eyes, the aspirations of his heart—appear to me utterly abhorrent from the dogmas of materialistic Pantheism. I never could be content, while thinking of such things, to feel myself dangling in mid-air without a resting-point for the sole of my foot. The true resting-point is a reception both in heart and head of a great First Cause—the one God—the Creator of all worlds, and of all things possessing life. Here we have found a true resting-place and heart's content; and so we are led to feel the sanctity and nobility of Truth, under all the forms in which it shews itself, to rejoice in its possession, and to honour it as the gift of God.

What does the Pantheist give us? A day of uncertain light, of uncertain joy, and a night of eternal darkness. But a better teaching tells us that there is a God who is the Father of the universe, and careth for all His creatures: and if we have listened to a still higher teaching, we can believe that as all the world of Nature has been progressive, so the life of man, and the labours of man, are not to end here, but are to lead him to a brighter and more glorious existence. And there is a higher teaching still, very near to us, even in our own heart and conscience: an emanation of holy light from the Fountain-head of all light—toward which I am permitted but to take one glance while winding up this concluding address. And may our Maker grant that His holy light may guide the steps and warm the hearts of all who read this Preface!

Soon after the *Conclusion* to the *Preface* was written—it is dated 17 September, 1872—Sedgwick returned to Cambridge. For a time he was unusually well, and full of kindly interest in the proceedings of his children at Norwich, where Mrs Sedgwick was spending the winter in his Residentiary house. "I make out that they were all to go to the dancing-school yesterday," he writes on October 14th; "the sooner they get into regular school-training the better. I ought to be thankful to my God and Saviour for the precious sleep of last night, and for the improved strength of this day. Yesterday I was a poor creature, and the day was very very dismal. 'Oh let

1872. Æt. 87. my mouth be filled with Thy praise, O Lord! that I may sing of Thy glory and honour all the day long! Cast me not away in the time of age; forsake me not when my strength faileth me.' The quotation fits me, and may God give me help to profit by its lesson! On the whole I think I am stronger than I was when I last left Norwich, certainly not weaker." During November and December these good reports continue. He was busy with the final revision of his *Preface;* and much gratified by the warm welcome it received from his friends when it was published. Some of the old pleasantry appears in his correspondence; and, as usual, it is full of quiet kindliness, and thoughts for others.

To Miss Mary Luard.

CAMBRIDGE, *November 28th*, 1872.

"...Let me scold you well. Have more respect for the letter *k*, and never more torture it (poor thing!) as you have done in your letter. Consider what good it does you in your kerchiefs! How it enables you to write kindly to your friends! How it is your leading friend when you give a kiss or a keepsake! Show the two clippings[1] to your sister, and ask her if you have not shamefully maltreated the king of letters! Is it not the head of all kindness? And your very dog reproaches you when it thinks of its kennel!..."

To his great-nieces.

Advent Sunday, *December 1st*, 1872.

"Thanks, dearest children, for your kind letters and messages....

I am going to begin our Sacred Service Year (Advent Sunday) by celebrating, with God's permission, the Holy Communion in my own rooms today, with two, or perhaps three, friends who will I hope come to support me in the Holy Service. The literal meaning of sacrament is an oath taken by a soldier to be true to his colours or standard. And

[1] He had cut out a sentence from each of the letters in support of his view.

is not Christian life a fight against sin, and all the temptations of the world? We are to 'cast away the works of darkness and put upon us the armour of light' (as told in this day's *Collect*)...May you all fight the good fight of true-hearted Christian life!...I must now prepare for my Sacrament —my oath of loyalty to the banner of the Cross—my commemoration of the death of Christ upon the Cross as a full redemptive offering for the sins of the whole world. May God give us grace to accept His offers of love and help in every hour of need! Such be your loving prayers for your old uncle. 1873. Æt. 88.

P.S. 1.30 p.m. The Service of the Holy Communion was reverently performed in my rooms by Mr Kirkby, one of our chaplains, to my great comfort."

The New Year began less brightly. He was gratified by presents of game and flowers, and the arrival of cards from his young folks, but he did not feel at his best. "This day," he writes on the first of January 1873, "has been most beautiful. But it has not made me much better. My digestive powers give way a little, and my skin-complaint still teases me much more than I like. The spasmodic action is unchanged. But I will not complain. I am at my average I think. May God's bright light shine on your heart this year[1]."

The symptoms alluded to did not pass away, though he combated them with strong medicines. His cheerfulness, however, was maintained, and to a certain extent his power of locomotion, for, on January 10th, he writes in good spirits, inquires after a lady who had broken her arm, and mentions that "this morning I had a short drive, and made one or two calls." A friend who saw him on the afternoon of Sunday, January the 19th, found him cheerful, and full of conversation. But, unfortunately, it was necessary that a meeting of the Chapter of Norwich Cathedral should take place, and, as he

[1] To Miss Kate Malcolm, 10 January, 1873.

1873. Æt. 88. could not travel to Norwich, the Dean and some of the Canons assembled in his rooms. The excitement proved too much for him. One of those present, Mr Heaviside, thought him "fearfully changed since he left Norwich. We did not let him take part in our discussions," he says, "and I sat with him after the rest departed. He brightened up considerably in the afternoon, and was much pleased with a message of inquiry the Prince of Wales had sent him from Sandringham by Professor Kingsley. No doubt he varies considerably... and the depression and weakness may be only temporary.... He talked to me as usual; but evidently is conscious of his weakness, and indeed said to me seriously that he did not think he should live through the spring. He was very anxious about them all at Norwich."

These forebodings were only too well founded. He never rallied, and very early on the morning of Monday, 27 January, the end came. For the details of the last sad days we will avail ourselves of a letter written to Mrs Vaughan, by Miss Sedgwick.

My dearest Kate,

Do you remember almost our last conversation before we parted in the early spring of this year? We had been talking of the last few months of my dear uncle's life; and you asked me to tell you something of those days when his life was drawing to a close—days which, when I look back, seem so full of peace, and so bright with the golden rays of life's sunset!

My uncle began his last Residence as Canon of Norwich on the 1st of August, 1872; and I joined him at his house in the Close on the same day. He was very cheerful and seemed well; but I remember that, when we arrived, he did not come to the door to meet his young nieces and myself with his usual loving words of greeting; he waited for us in the drawing-room, saying, with a smile, as we entered, that going up and down stairs was harder work to him now, than it had

been eighty years before. He was not strong enough to go to the early service in the Cathedral during the two months of his Residence; his kind friend and brother Canon, Mr Heaviside, took his place; but he was able usually to attend the afternoon service. He drove out almost daily, and went to see most of his old friends. His love and thought for every one about him were greater than they had ever been, and he was specially anxious for the happiness and pleasure of the young people; but he frequently said to me, that he felt the close of his life approaching, and that he knew he should never come to Norwich again. One thing especially struck me, how constantly his thoughts seemed to be dwelling upon the life beyond the grave; *That* was the real life to him, though he took a lively interest in the questions of the day, generally asking to have *The Times* read to him, and sometimes *The Quarterly Review*, and *The Edinburgh Review*. Yet, whenever he was alone, earthly things seemed to lose their interest, and his first words, when we again joined him, were of some passage of the Bible which was difficult to interpret, or some incident in the Life of our Lord or His Apostles that he had been reading, or thinking of. St Paul's life, and teaching, were very real to him; he would speak of the Apostle almost as if he had personally known him, and he described his journeys, and especially the shipwreck of the 'ship of Alexandria' off the Island of Melita, as graphically as if he had been there himself. When passing the door of his room at night, I have frequently heard him praying audibly in the most earnest words for all near and dear to him; and at other times for himself, in tones of the deepest humility. After he had gone to bed, he generally repeated aloud Bishop Ken's evening hymn, *Glory to Thee my God this night.* 1873. Æt. 88.

A great part of the *Preface* to the *Catalogue of the Cambrian and Silurian Fossils in the Woodwardian Museum at Cambridge* was written from his dictation by his servant John Sheldrick, during these two months of his Residence at

1873. Æt. 88. Norwich. I often asked him, if I could not write for him, but he declined, saying, John was more accustomed to the work of writing from his dictation than I was. But one morning in September, when he was particularly cheerful and well, he asked me, after breakfast, to come with him to the room where he generally wrote, saying, he had now come to his last day's work, and as he had some grave and solemn words to say—words, which he felt would be the last he should ever address to the public—he wished me to write them down for him. The part I refer to is the *Conclusion* of the *Preface*. I wrote as rapidly as I could, but it was difficult to keep up with the rapid flow of words; sentence after sentence was spoken with scarcely a pause for thought. When the concluding paragraph was written, he said: 'There, Isabella! that is the last sentence I shall ever write for the public! Now read it over to me, in case I wish to make any correction;' but none was needed, and beyond one or two verbal alterations, where I had not clearly understood him, no change had to be made in those eloquent words.

His Norwich Residence ended with the last days of September, and he was anxious to return to Cambridge and his beloved College. We parted with sorrowful hearts. The night before I returned to my Yorkshire home, he said that we should never be at Norwich together again, but, if God spared him, he hoped that I would come and see him early in the coming year at Cambridge, according to my usual custom for two or three years, as he felt almost certain he should be gone before the spring. These were sorrowful words to me, but they were spoken almost joyfully by him.

During the next three months I heard from him two or three times a week; sometimes the letters were written by himself, but usually he dictated them from his easy chair. Generally they were written very cheerfully, though sometimes he spoke of increasing weakness, and said that even the short walk to his Museum tired him. When Christmas came, he did not forget any of his accustomed charities, but sent a

larger sum than usual to distribute amongst the poor and sick of his native valley of Dent. 1873. Æt. 88.

Soon after the beginning of the year 1873 I asked him if he would like me to come and see him at Cambridge; but as he knew I was very anxious about the dangerous, and what proved to be the mortal, illness of an old servant, he replied: 'No! I would rather you came a little later;' at the same time mentioning that he had just been to the Woodwardian Museum. I believe that was the last time he was out of his rooms. At last one morning, Wednesday the 22nd January, two very sad letters came to me at Langcliffe—one dictated by my uncle, with a postscript from his servant, saying that he thought him more feeble; the other from Canon Heaviside, who had come from Norwich to see him, and thought his strength was going. These letters were followed, in a few hours, by a telegram from his physician, Dr Paget, saying, that my uncle had fainted when getting up, and that he thought that I had better come at once to Cambridge. I left by the next train, travelled all night, and arrived next morning at his rooms in Trinity. He welcomed me with his usual bright smile, and loving words, told me something of his increasing weakness, and then said: 'I shall not be long here now, you must stay and be with me to the last.' He remained in bed all that day; he had no pain, he said, only felt weak. He spoke of old times, and of his father and mother, brothers, and sisters, who had all, he said, gone home before him. Then he spoke of the younger generations of his family, and of other friends whom he hoped soon to meet again, and of his Cambridge life and work, and the deep affection which he had always felt for his College and University, and he asked me to read to him some passages from the Psalms, and the Lessons for the day, according to his usual custom. When night came, I told him that Mrs Thompson had asked me to go to the Lodge, and had given me the key of the door opening on to the turret-staircase, so that I could come to him at any moment he wanted me. He

1873. Æt. 88. replied: 'I hope you will have a good sleep; John will look after me.'

The next day (Friday) although he had not slept much, he seemed stronger, and was up and dressed, and dictated one or two short letters. He was especially anxious to send some words of sympathy to a friend, whose wife had just died; this letter was the last he ever dictated. Again he had a quiet night, and was free from pain, though in the morning Dr Paget thought him weaker. He slept a good deal, but towards evening roused up, and asked me if I had heard from his nephews and nieces at Norwich, and sent messages of love to them. He then asked me to read the 130th and 51st Psalms, saying that the 130th was the last earthly sound that fell upon the ears of his dear friend Dr Ainger of St Bees college, to whom he read it when dying; and that the 51st was the favourite Psalm of his father in his extreme old age. A little time after he said: 'Read to me the chapter that you read to Margaret [his eldest sister] the evening before her death, the 17th of St John;' and when I had finished, after a little pause he went on to speak of his own hopes of salvation, alluding to himself in words of the deepest humility, saying that his whole trust was in the atonement which his Saviour had made for him, and in the mercy and love of his Father in Heaven.

Sunday was the last day of his earthly life, a day of deep sorrow, but yet of great peace. He had again a quiet night, and slept quietly most of the morning. In the afternoon I heard him praying earnestly, not, I think, knowing that any one was in the room. I knew he had a dislike to being watched, and therefore sat partly behind the curtain at the foot of his bed, and I was too far off to hear at first more than broken sentences, mingled sometimes with the names of those he loved; but, as he prayed more and more earnestly, his voice grew stronger, and the following sentences I clearly heard, not spoken together, but with a pause between: '*Wash me clean in the blood of the Lamb—Enable me to submit to Thy*

Holy Will—Sanctify me with Thy Holy Spirit.' These were the last words he spoke. For a little time his breathing was hurried, but, as the winter Sunday advanced, it became more gentle, and he fell asleep; and so the afternoon passed away, and the evening closed in, and the stars came out and shone brightly into the darkened quiet room, where I sat near the window in the deep stillness, listening to his soft breathing. Then the evening service began in the Chapel, and the rich tones of the organ, and the chanting of the choir, now swelling, and then dying away, could be distinctly heard, and so unearthly in its beauty was the melody, that it almost seemed as if the golden gates of Heaven were opening, and music not of this world was floating down to that quiet room. In a little time the stillness was broken by the chimes of St Mary's Church, and again deep silence fell upon the room. It was quite impossible, in that deep stillness and quiet, to realize that a soul was passing away to God. 1873. Æt. 88.

There was no change till about midnight, and then we saw the shadow of death come softly over his face, and we knew that he had passed into the dark valley, and that the end was near; but there was no pain, only quiet sleep. His breathing again grew more faint, and soft; and without a sigh, just as the clock in the great Court of Trinity chimed a quarter past one, his spirit returned to God. 'So He giveth His Beloved sleep.'

Believe me,

Ever yours most affectionately,

MARGARET ISABELLA SEDGWICK.

The news of Sedgwick's death was received with very general sympathy. The Queen telegraphed: "I am deeply grieved to hear of the death of our kind old friend, Professor Sedgwick. He was a most valued friend of the dear Prince. Pray let me have some details;" and General Knollys wrote from Sandringham: "The Prince has to lament the loss of a valued friend." From all parts of the country came express-

ions of condolence and regret. One spoke of "the noble-hearted veteran who has for so many years been one of the chief glories of Trinity College"; another remembered that in his undergraduate days "forty-three years ago! he was always called 'Old Sedgwick.' Few people have had so long a career of usefulness, and few have been so generally loved and respected." But all the affectionate recollections of kindness received, and of happy hours passed in the sunshine of his presence, must give place to the words of a lady who had known him from her childish days: "As each of the great old men go home under whose influence one has picked up what one could of crumbs of wisdom and culture, one feels that we shall never see their like again, and of no one is that so true as of Professor Sedgwick. Whatever our age may produce of great and good—and I never believe that because we grow old, and see the world through a veil of tears and regrets, God forgets to be gracious, and that the former days were better than these—still, whatever it produces of able, ingenious, ardent, souls, it never will produce anything like him—the great mind united to an equally great heart, rich in culture, matured by intellectual discipline, as earnest in the love of God as of man, and yet simple, genuine, natural, spontaneous as the veriest peasant, or as one of the little children whom he loved so well."

The funeral took place on the Saturday after his death. It was a cold, sunshiny day; and flakes of snow fell at intervals, contrasting sharply by their whiteness with the dark robes of the mourners,—as the coffin was carried round the Great Court, followed, in long procession, by the Fellows, scholars, and undergraduates of the College; the official dignitaries of the University; a large number of the resident members of the Senate; and many friends who had travelled from a distance in order to be present. On the east side of the court the procession was met by the Master, the Vice-Master, the chaplains, and the choir. As they moved slowly towards the chapel, the choir sang the opening sentences of the Burial

Service, *I am the Resurrection and the Life*, which sounded with even more than usual solemnity through the clear and frosty air. The grave had been prepared in the centre of the ante-chapel, close to that of Dr Whewell. The prayer of committal, and the prayers that conclude the Service, were pronounced by the Master, in a voice more than once broken by emotion.

On the Sunday which succeeded Sedgwick's death, as on that which had preceded it, the Dean of Westminster was the select preacher before the University. No man was better qualified, by long friendship, by sympathetic temperament, by pictorial eloquence in the treatment of a great subject, to deal worthily with such an unexpected coincidence. It happened also that Dr Lushington—Sedgwick's friend—the oldest member of the University of Oxford, as Sedgwick was of the University of Cambridge, had passed away a few days before him. In the first of his two sermons the preacher had dealt with *The Moral and Spiritual Aspect of the Essential Truths of the Christian Religion*, and in his conclusion had referred to Dr Lushington's career as "fired from first to last by generous sympathy with suffering, by noble indignation against wrong, by the firm persuasion of the indissoluble bond between all that is highest in religion and all that is greatest in morality." Then, reminding his hearers that Sedgwick's existence was "trembling between life and death," he spoke of him as "filled by the same burning enthusiasm for what was noblest and best in human kind, the same humble and firm belief in what was holy, and just, and good." On the following Sunday, which fell on the Feast of the Purification, the subject of the sermon was *Purity and Light*. After describing the origin of the festival, and the meaning of the two doctrines he desired to enforce, he passed to the theme which, as he said, must have been throughout his discourse present to the thoughts of those who listened to him. More than one preacher on that day spoke of Sedgwick in his sermon; and many writers since have done their best, in

essays, in obituary notices, in speeches, to set forth the characteristics of one whom they loved and respected; but no words that others may have used will bear comparison with those, at once so eloquent and so true, in which Stanley commemorated his friend.

Many and various are the recollections, grave and gay, solemn and sweet, that come back at such a moment; yet I know not whether there are any which strike more forcibly on the memory than the witness which he bore to the two high spiritual doctrines of which I have thus ventured to speak. Who that ever saw the scorn of that fierce indignation against baseness, or meanness, or wrong, has not felt himself nerved to loftier aims? Who that ever read or heard his burning words of detestation and disgust against the miserable folly and sin of sensual self-indulgence—his admiration of whatever was unworldly, generous, and just—did not perceive how, amidst the exuberance of his never-dying youth, amidst all the energy of political or theological or scientific strife, there was in that granite rock a crystal spring of affection, simple, tender, and true as ever burst from the depths of human heart?

> 'His strength was as the strength of ten,
> Because his heart was pure.'

He was, as far as in him lay, 'the salt,' the Attic salt, the purifying salt, the invigorating salt, which kept us all from corruption, debasement, and decay. And not less was he 'the light' of this our earthly scene. In his own peculiar field he fought the good fight of faith in this great doctrine, though many forsook it and fled. In those early struggles of science, when a timorous theology held aloof, he sprang forward fearlessly into the foremost rank of inquiry. Freely and boldly did this University trust him for his arduous task, and freely and boldly did he reward her for her generous confidence. He left no stone unturned, he left no depth unexplored, out of which he could extract the secrets of nature or dispel the darkness of ages. No fanatic partisan ever clung to ecclesiastical or political dogmas with more perfect submission or more ardent enthusiasm, than he to the sublime Christian doctrine that God is Light, and that in Him is no darkness at all—that God is Truth, and that truth will in the end prevail. In this holy confidence, in this magnanimous hope, doubts and difficulties melted away. Under the magic touch of his reverential ardour the very stones seemed to cry out, the flinty rocks seemed to have found a voice, deep called to deep; and 'the sons of God' seemed again 'to shout for joy,' as he described the 'fastening of the foundations of the world and the laying the corner-stone thereof.' And never, through all these labours, did he lose the conviction that in this bold research he was fulfilling his Creator's will. Never did he cease to see in those marvels the signs of the Creator's goodness. For

himself, as for others, he breathed throughout his long laborious life that lofty aspiration which is concentred in his latest prayer for this his beloved University, that 'his Maker, the fountain-head of all light, would, by His heavenly light, guide the steps and warm the hearts' of all his hearers.

But when we speak of him as an explorer of the earth, as a luminary of the scientific horizon, how small a part does this convey to us of the manifold senses in which to so many amongst us he was indeed the salt of *our* life, the light of *our* world. The light which irradiated, illuminated, cheered, whatever world he entered; college or cathedral, court or cottage, public audience or private home; by the fire of affection, by the blaze of genius, by the far-reaching ray of good deeds, and encouraging, elevating thoughts. It was the whole man, the whole being, in which this bright example burned and shone, that made the heart leap with joy as he drew near, and inspired the humblest and dullest for the time with the inspiration of his own enthusiasm. Think of that eager, impetuous flow, that 'Homeric' energy of eloquence, that caught up in its current the incidents, great and small, of his vast and varied recollections; think of the flash of that eagle eye that was awakened to fire by whatever was great and good; the power of that faltering voice that was melted into tears by whatever was touching and tender. Think of that rare union of gracious courtesy and noble independence which won the affections of all whom he approached—from the Queen, who delighted to honour him, down to the humblest dalesman, whom he cherished as flesh of his flesh and bone of his bone. Think of the pride, as of one belonging to a high-born ancestry, with which he dilated, in thoughts that breathed and words that burned, on the glories of his Church and country,—on the splendour, past and present, of this his own beloved University. Think of him yet again—if I may for a moment intrude into that inner privacy—as the joyous centre, the unshaken strength, the ever ready guide and counsellor of kinsfolk and friends. Think of that child-like, simple, yet manly and understanding faith with which he dwelt at once with adoring reverence and fearless freedom on the central truths of the Christian faith; the ever fresh admiration, as though he had lighted upon them for the first time, with which he would read in public or in private the stirring passages of Holy Scripture. Think of the firm but faltering tones of overflowing thankfulness with which he would recount the many blessings which had followed him through his course of fourscore years. Think, let me add, of his calm and peaceful close, with the last words that trembled on his lips, in the watches of the last night of his mortal life: '*Sanctify me by Thy Holy Spirit.*' In that grand and gifted soul Purity and Light had indeed met together, Faith and Knowledge were indeed reconciled.

No long time elapsed before a few friends of Sedgwick met at Trinity College Lodge to consider how he could be best commemorated in the University. We believe that there

was but one opinion, namely, that the Memorial which he would have himself selected, and which would best perpetuate his special work, would be a new Geological Museum, which should bear his name, and worthily contain the collection which he had got together. Soon afterwards (25 March) a public meeting was held in the Senate House. It was a meeting remarkable not only for its numbers but for the quality of those who addressed it. The University was represented by the Chancellor, who presided, the Vice-Chancellor, the High Steward, and the two Representatives; the two principal Colleges by their Masters, Dr Thompson and Dr Bateson; science by the Astronomer-Royal and Professor Humphry; literature by Professor Kennedy; theology by Professor Selwyn and Professor Lightfoot; the presence of Professor Shaler of Harvard testified to the sympathy of America; that of Mr Conybeare to the good feeling of the University of Oxford. Of these speakers some had known Sedgwick intimately; others only slightly, if at all; they dealt with the question before them from different standpoints, and handled it with different degrees of ability. But it may be noticed that their speeches, whether eloquent or not, had always the true ring of sincerity; they used no set phrases, they spoke from conviction. And the outcome of what they said was always the same, whatever their point of view—that Sedgwick was one on whom it behoved the University to bestow exceptional honour; and that the proposal before them, to build a new Geological Museum, was the best that could be suggested for that purpose. We have no space to analyse these speeches at length—but from the more personal reminiscences of Professor Selwyn a few sentences may be quoted.

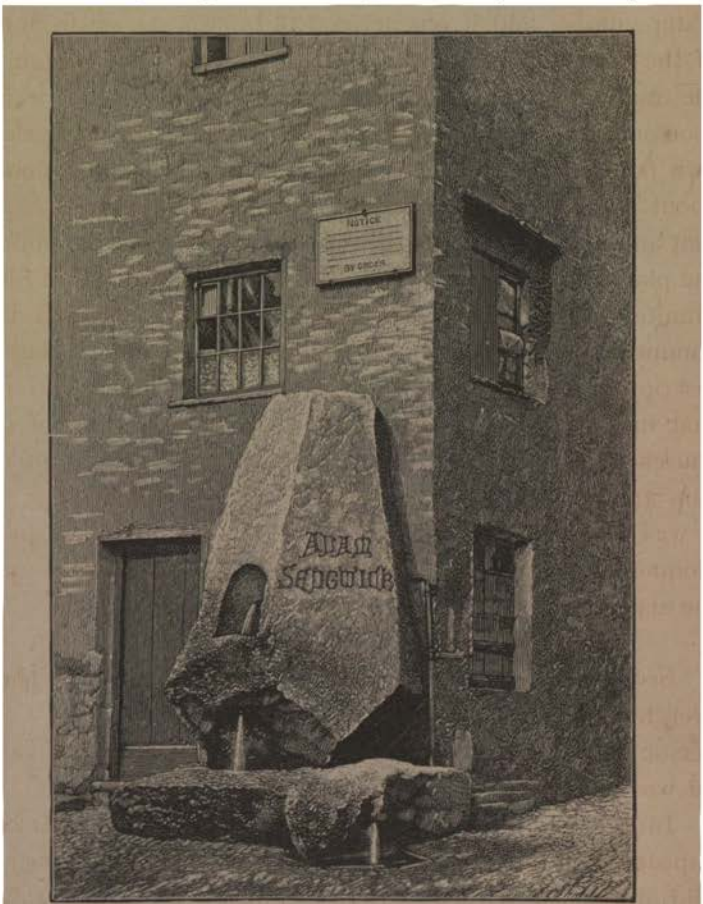
It is difficult to speak one's own thoughts of him whom we are met to honour; but let me say that he was a most *primitive* man—of the solid ancient rock of humanity. He appears like a great boulder-stone of granite, such as he describes, transported from Shap Fell over the hills of Yorkshire, dropped here in our lowland country, and here fixed for life; primitive in his name, Adam; primitive

in his nature; in his noble rugged simplicity; a dalesman of the north; primitive in his love of all ancient good things and ways; primitive in his love of nature, and of his native rock from which he was hewn; primitive in his loyalty to truth, and hatred of everything false and mean; a heart, if ever there was one, that 'turned upon the poles of truth.' And it must be said, for it is what I have heard from his own lips—he was primitive in his love for his dear country, and of our British Constitution, combining the two great elements of stability and progress; 'a whig of the old school,' that was the school of Somers, and Halifax, and the seven Bishops. On this I would still speak of him geologically; he was a block of that primitive granite of English right and liberty upheaved at Runnymede by Stephen Langton and William Earl of Pembroke, with the bishops and barons; which, overlaid in after-times by sedimentary strata of royal prerogative and arbitrary rule, at last, after long conflict with the tension of the overlying beds, by the central fire and native force of right and justice in British hearts, burst through again, and stands to this day like the strong mountains, the bulwark of our rights, and liberties, and religion. I must not say here what he said of later times, but, putting it geologically, the alluvial drift and diluvial current passed by him, carrying a church here, there abrading the surface of an old endowment, and making pious founders a race of extinct fossil animals; but the old granite boulderstone stood fast. Yet, granite though he was, he was not all hard, as we know; rugged, but very kindly—I know it by experience.... Many remember him as the earliest and kindest friend of their childhood, and how large and various was his spirit was seen when his library was sold.

The resolution which this speech supported ran as follows: "That the proposed Museum be called the Sedgwick Museum, and that a bust of Professor Sedgwick be placed in it." Selwyn pleaded that for 'bust' we should read 'statue:' "Let us have the whole man, as we have been wont to see him. For what is a geologist without the hand to wield the hammer? without the feet to carry him over the mountains?"

The scheme to which this meeting gave a definite shape was actively promoted by a well-selected committee, and funds for the proposed Museum were rapidly and generously subscribed. The Chancellor gave £1000; Professor Selwyn £500 for the suggested statue; others followed with smaller sums, and before many months were over £11,000 had been got together. To this sum may be added about £7000 by

accumulation of interest, and £2000 by increase in value of securities—so that the Sedgwick Memorial Fund now amounts to nearly £20,000. Here, however, the matter ends. This sum, large as it is, is not sufficient to build the proposed Museum, as well as the lecture-rooms, class-rooms, etc. required for geological teaching; and, up to the present



Memorial Fountain at Dent.

time, the University has not been in a position to provide the balance. Meanwhile the site, the extent, and the arrangement of the buildings required have been anxiously

debated; more than one architect has submitted a design; but each has failed to win approval. The University is still without a memorial of Sedgwick.

In Dent, as in Cambridge, it was felt that Sedgwick ought to be commemorated. After some discussion it was remembered that he had frequently drawn attention to the defective water-supply; and it was decided to bring a stream from one of the adjoining hills, and to erect a Memorial Fountain in the market-place. The money required, about £200, was soon subscribed by the statesmen, by members of Sedgwick's own family, and by friends; and, happily, little or no debate about the design was needed. It was agreed on all hands that an architectural composition would be unsuitable both to the place and the man; and a plain pyramidal block of Shap granite, inscribed *Adam Sedgwick*, was selected. He is further commemorated by a tablet in the parish-church, bearing an inscription by Professor Selwyn. It should be mentioned that in the course of the year 1889 the restoration of this church was carried out, at a cost of nearly £3000. Of this sum at least £1000 was given in memory of Sedgwick; and it was Sedgwick whom the Lord Bishop of Richmond, in his eloquent sermon[1] at the completion of the work, held up to the dalesmen as an example to be followed.

Sedgwick's biography is now concluded. I propose, however, to add a short epilogue, in which, speaking in my own person, I shall recount a few particulars that could not easily be woven into the foregoing narrative.

In the first place, let me try to describe his personal appearance. "I am a taller man than you think for," he told Murchison in 1829; "I am five feet, eleven inches, and a half." His frame was spare, athletic, and capable of enduring much fatigue. His complexion was dark—a peculiarity in-

[1] *Adam Sedgwick.* A Sermon preached by the Right Rev. J. J. Pulleine, Lord Bishop of Richmond, at the re-opening of the Parish Church, Dent, after its Restoration, on the 14th February, 1890. 8vo. Sedbergh.

herited from his mother—and his face was always wrinkled, with deep lines in it. It looked rugged and weather-beaten; but bore no trace of pain or overwork. His forehead was overhanging, with bushy eyebrows; his eyes brown; his nose prominent and hooked. His hair began to turn grey when he was forty years old, but it never fell off to any great extent; and no part of his head was ever bald.

There is a well-known story which relates how Sedgwick, Whewell, and Peacock were one day standing on a hearthrug in front of a large mirror. Sedgwick looked up, and catching sight of the three faces reflected in the glass, exclaimed: "I declare the three ugliest men in England are standing on this rug at the present moment." "Speak for yourself, Sedgwick," said Peacock, while Whewell burst out laughing. Sedgwick often joked about his own ugliness, his "weather-beaten, time-harried, smoke-dried physiognomy"—and the like; but with very little justification. It was not a regular, handsome face; but one of singular power. His whole character was written in it. The deeply sunk, brilliant eye; the hooked nose; the kindly mouth; gave an idea of great intellectual gifts, joined to infinite kindness and good nature. It was a difficult face for a portrait-painter to delineate, because, though the features were so well-marked, their expression changed with wonderful rapidity. On this account those who remember him well are probably dissatisfied with all the portraits of him. The earliest, painted by Phillips in 1832, which appears as the frontispiece to the first volume, is considered by his family to have been like him then; but he himself said: "it makes me almost a dandy, a character I never much affected, for nature cast me in a large mould, and gave me a very rugged countenance. There is a lithograph from a crayon drawing by Lawrence [taken in 1844] which makes me look a little like a savage; to be perfect it should represent me with a tomahawk in the right hand, and a bloody scalp in the left. Lastly, there is a lithograph which makes me look like a fat, greasy, butcher, and I had that look for a few months after I

recovered from a dreadful fall by which my arm was fractured, and I was nearly bruised to death." These last remarks apply to the portrait by Boxall, painted in 1851, when the effects of the fall, at the end of 1849, had not yet wholly disappeared. The crayon drawing by Dickinson, prefixed to the second volume, gives, on the whole, the best idea of his face in repose. His features did not alter much as he grew older; and this portrait recalls him to me as I remember him in his years of greatest energy and activity.

He was scrupulously neat in his dress and personal appearance—his face closely shaven—an operation which, to the last, he insisted on performing himself; and his clothes—the black garments suitable to a clergyman—well made and carefully brushed. Like many men of his time, he wore his gown with the strings tied.

I am sorry that I cannot give any account of his geological teaching from personal recollection. I visited his lecture-room only occasionally, and can recall nothing but a general impression of picturesque description and energetic delivery. I remember, however, that forty-five or fifty years ago his lectures were regarded as one of the features of the University; and it is certain that, at a time when attendance was not compulsory, and when knowledge of the subject-matter was of no practical use from the point of view of examinations, Sedgwick always had a large class of voluntary students. In default of my own recollections, I have to fall back on those of others. The earliest in point of time are those of the Lord Bishop of Carlisle, who took his degree in 1840. He says:

> Considered in the abstract, his lectures were not equal to others which have been given by scientific men; he was not equal as a clear expounder of a scientific subject to the late Astronomer-Royal, or Professor Tyndall, or the late Professor Willis. He did not present his science—at least in those courses of lectures which I have myself had the delight of attending—in a manner which could be described as first-rate, with regard to clearness of order and logical arrangement; in fact, if a student wanted to 'get up' geology for an examination, I should judge that Sedgwick's lectures would not have been the most profitable employment of his time; but for

the purpose of exciting present pleasure in the reception of knowledge, and enthusiasm of desire to become geologists, few expositions of the subject could have been more successful. It was a positive delight, independently of all questions of geology, to watch the bright countenance, and listen to the eloquent and almost unpremeditated language of the Professor, as he moved about from diagram to diagram, or described specimen after specimen, sometimes throwing in a remark of high morality or bright poetry[1].

The next witness I will call is Mr Sedley Taylor, formerly Fellow of Trinity College, who took his degree in 1859. His recollections therefore refer to a period twenty years later than Bishop Goodwin's.

Sedgwick's lecturing in his later years, of which alone I had experience, was certainly very discursive. The sight of some fossil on the table, or of some diagram on the wall would recall the occasion on which he found the one or noted down the memoranda for the other. 'I was taking a geological excursion with my dear friend ——, long since dead, gentlemen, like most of my contemporaries;' and off he would go, recounting the 'glorious time we had together,' with an exuberance of cheery reminiscence, a vivid picturesqueness of description, and a homely raciness of language, the impression of which remains with me still. Then, after an apologetic 'But this is all by the way, gentlemen, this is all by the way,' he would abruptly fall upon his assistant with, 'Where is that fossil? Eh? what do you say? Oh! ah! yes!' and then launch out into a description of the animal of whose body the fossil in question had once formed part: 'a very queer old fellow, gentlemen,' just as though he had met him a short time before. This would in turn be succeeded by another plunge into field-work experiences, lit up with familiar biographical touches relating to men known only to his hearers as occupying dignified niches in the temple of geology; but in Sedgwick's tenacious and affectionate memory still living and moving in the light of old friendship and *camaraderie*. It will be said that such lectures constituted a sort of miscellaneous conglomerate, and so they did; but to me for one they had a vivid personal interest for which the most faultlessly systematic exposition supplies a poor substitute.

Lastly, I will quote Mr H. G. Seeley, F.R.S., Professor in King's College, London, who was Sedgwick's assistant for the last years of his life. His testimony is peculiarly valuable, because he was able, from previous experience, to compare Sedgwick's method with that of others.

[1] *Macmillan's Magazine*, April, 1880, p. 477.

When I came to Cambridge I was familiar with the teaching of the Professors of the Royal School of Mines; I had attended a course or two of Professor Owen's lectures; and lectures by other London teachers. The first impression which Sedgwick gave me by contrast was the small number of facts with which he troubled you, and the extreme clearness of the story with which they were connected. In London, lectures were a substitute for books; with Sedgwick they were introductory to books, for books, as he used them, became a sort of commentary on, or elaboration of, some parts of the course. His aim was essentially synthetic. He tried to establish habits of thinking about the larger phenomena of nature, and the interest which he roused was partly based on the principle of contrast, partly created by making the discoverers narrate their contributions to knowledge. If glaciers were being discussed you learnt the history of the evolution of opinion in vivid story of life on the Alps, intermixed with passages from the writings of many men, and pictures from their works.

The lecture was commonly broken into three, four, or five portions by change of subject, or by stories, or occasionally by jokes—on the theory that such young men as came were not capable of sustained attention; and he had a horror of being over the heads of his audience. He was very reticent as to his own work, so that a pupil might pass through a course and hardly learn that Sedgwick had ever made a physical observation; and he did not utilize in any systematic way the every-day observations of nature which many of his audience must have made. This I have regarded as part of his art, which was directed to concentrate attention on the principles on which facts hang together.

Sedgwick never lectured without diagrams, and generally preferred to have one or two more than were to be used. He never attained any facility in the use of the blackboard, though it was sometimes used when a section was necessary. His favourite subjects were, I think, the comparative anatomy and classification of the fossil mammalia. A table laden with odd bones of animals from the gravel or the fens, enabled him to give striking illustrations of the way in which knowledge of principles introduces order and interest into the study of mammals. He liked to have on the lecture-table a multitude of specimens, as though to show the immensity of detail which awaited examination.

There was no introduction to the lecture, and very little peroration. He almost always ended with a stately bow—to express thanks for the attention with which he had been listened to.

The effect of his teaching may be fitly summed up in a sentence of his own, heard at one of his lectures: "I cannot promise to teach you all geology; I can only fire your imaginations." At the same time he always did his best to put before his class the newest views on the subject. He

took pains to keep himself *au courant* with what others were doing—both by reading, and by personal inquiry. I have now before me a long letter from Darwin, in reply to one of his, asking for information on the elevation of South America, and the formation of coral-reefs. The change of his views respecting the antiquity of man, after study of what had been written on that subject, has been already stated[1].

Many of those who attended his lectures became distinguished geologists in after-years. The language of one of these, Mr Jukes, who in his private letters generally addressed him as "My dear father," is too sincere not to be quoted:

My dear Sir,

It is but a trifle I am going to offer you[2]; but, such as it is, permit me to dedicate this little book to you. It will, at all events, enable me publicly to acknowledge your great kindness to me,—kindness first spontaneously shewn to an idle undergraduate at Cambridge, and subsequently renewed at many periods of my life. Upon the course of that life your influence has been as great as beneficial, and while it lasts you will always be most gratefully remembered by

Your sincerely attached pupil,

J. BEETE JUKES.

Another letter by an anonymous undergraduate is also worth preserving. It was written in 1845.

Dear Sir,

I am not 'poetising,' as you call it, when I say that *my very soul* went with you yesterday.

The same feelings which would have urged me to grasp your hand as you spoke those noble thoughts leads me now to this, the only mode I can find of expressing my earnest thanks. Truly you have led us on to contemplate the God of Nature—His goodness —His omniscience—His omnipotence.

I cannot believe that these words, coming from the heart of one of your Geological Class (especially as I know him to be one only of many who feel with him), will be ungrateful to you after the pains you have taken to lead us on.

Perhaps I may be allowed to hope that you will resume the lectures, great part of which the unusual shortness of the term

[1] See above, p. 440.

[2] *A Sketch of the Physical Structure of Australia.* By J. B. Jukes, M.A. 8vo. Lond., 1850.

has deprived us of, if it should ever be convenient to you during this present year. Many of us also remember an allusion made to a 'Field-day' in the next term—which would be indeed a privilege to us all.

Taking this opportunity of acknowledging your kindness in explaining after lecture little questions of difficulties,

I remain with esteem and affection,

ONE OF THE CLASS.

My remark that Sedgwick's discourses in his lecture-room were one of the features of the University is still more true of his field-lectures. They were looked forward to as one of the principal events of the term in which they were given, and attracted an immense audience. I have already drawn attention to several in the course of my narrative, but in this place I am able to give one of his programmes of the route to be followed, and an account of the excursion, drawn up by himself:

THE WOODWARDIAN PROFESSOR invites his CLASS to meet him on horseback at the Barnwell Gravel Pits, on *Tuesday*, April 7, precisely at Ten o'Clock. He will halt at Quy Hill, quarter before Eleven; at Swaffham Hill and Reach, quarter before Twelve; and at the Stone Pit, Upware, quarter before One. From the last mentioned place he purposes to proceed to the Pits of Green Sand and Kimmeridge Clay, near Ely; after which he intends to return by the Turnpike Road.

TRINITY COLLEGE,
April 4, 1835.

GEOLOGICAL EXCURSION.

On Tuesday last, a field lecture on Geology, attended by circumstances of unusual animation and novelty, was given by the Woodwardian Professor, to a class of 60 or 70 academic horsemen. The party assembled at 10 a.m., when the Professor mounted a high heap of gravel, and, after producing a series of illustrative sections, proceeded at considerable length to explain the hydrographical surface of Cambridgeshire, and the geological structure of all the country within sight. He dwelt at some length on the contrast between the flat alluvial plains of the Cam and the Ouse, and the uplands which skirt them—the lower regions composed of horizontal deposits of comparatively recent date, such as mud and sand, river silt, and turf-bog, containing here and there skeletons, and shells, and other spoils of animals, of like species with those

which now live, or were known once to live, in the neighbouring country—the higher lands, on the contrary, made up of a series of marine deposits, dipping at a very small angle to the S.E., and surmounted by irregular heaps of gravel and vegetable soil. This gravel is therefore the newest deposit of the uplands; and though formed, like the fen-lands, by the action of water, belongs to an entirely distinct geological epoch; for it is not spread out in regular horizontal layers, but in many places exhibits indications of a violent rush of water—and, though chiefly composed of chalk flint, contains, in some of the higher elevations, rolled masses of rock drifted from remote parts of the Island, fragments of the petrifactions of almost all the British secondary strata, and portions of the skeletons of extinct species of elephant, rhinoceros, and hippopotamus, mingled with the bones of several species of deer, of the gigantic *Bos Taurus*, and of the horse.

He then pointed out the regular succession of the phenomena before them. On the surface of the ground where they stood was a mouldering Abbey of the Middle Ages; under this was the gravel belonging to some epoch anterior to the records of the country. Then, in descending order, came a series of marine deposits—1st, the *chalk marl;* 2nd. under the *marl* (as seen in the brick-pits), a thin band of *green sand;* 3rd. and lastly, the *galt*, or brick earth, proved by boring to be about 150 feet in thickness. He then stated that all these marine deposits (commencing with the *chalk marl*) were respectively characterised by numerous organic remains of species, or genera, which had entirely disappeared from among the animals of the present creation. Among such remains he enumerated the most common,—such as ammonites, belemnites, hamites, corals, coprolites, sharks' teeth, teeth of crocodiles and of other genera of large reptiles, &c. &c. From the grouping and preservation of these remains, and especially from the condition of the bivalve shells, it was evident that they had not (like the gravel) been drifted from a distance, but that many of them had lived and died in the position in which we find them.

Such were the phenomena seen and described in the gravel and brick-pits of Barnwell. The Professor then pointed out to the class that the south-eastern dip of the marine deposits naturally brought up to the surface two lower formations—viz. the *lower green sand* of geologists (which rises from beneath the *galt* at Denny Abbey, and caps the hills near Ely), and the *Kimmeridge clay*, which, rising from beneath the sand of Denny Abbey, forms the sub-soil of Cottenham fen, and the lower part of the hills near Haddenham and Ely. Lastly he stated, that a local dislocation, near Upware, had brought up some bands of shelly coralline limestone, which, from their fossils and dip under the *Kimmeridge clay*, he considered as probably the representatives of the *coral rag* (the lowest stratum within the compass of the day's excursion), and that a few miles west of Ely, the *Oxford clay* (the lowest stratum of the county) rose to the surface, and formed the base of the great 'Bedford Level.'

After the introductory address, in the gravel-pits of Barnwell, of which the preceding account is a short summary, the whole party proceeded at a rapid pace to a chalk quarry near Quy church; and the Professor pointed out to them the true nature of geological induction, and the natural connexion between the external form of a country and its internal structure.—Thence, at the same rapid rate, they moved on to the chalk hills above Swaffham Prior, where they examined some of the higher beds of the chalk formation—overlooked the great inland delta, formed by the junction of the old Ouse and the Cam—and were detained some time by a description of the features of the country in connexion with its structure, and of the changes the several features undergo in their prolongation towards the south coast of England.

The whole party then descended to the level of the fens, and, at a still increasing pace, crossed by Reach Lode to Upware. Some adventurous spirits, deserting the haling-road, and attempting to clear the ditches, were dismounted; and several horses ran a risk of being entombed among the fossils of the *galt*. Two, not without some difficulty, were dragged out with ropes. Neither horses nor riders were a whit daunted by these misadventures, but soon rejoined their friends, and gave new life to the expedition, appearing, for the rest of the day, like fossil bodies become reanimate for the instruction of the party.

At the stone-pits of Upware the whole company halted for some time; and the geological relations of the stone bands were explained by a hypothetical section. Nearly one-half the assembled company here deserted their leader and returned to Cambridge—thirty-seven horsemen were, however, true to their colours, including in that number the two that had been half fossilized in the *galt;* and they all advanced, nearly at full speed, along the fine turf which leads from Upware to the Soham road, and thence they proceeded, for the sake of very necessary refreshments, to the Lamb, at Ely. After all the choice organic remains of the city shambles had vanished in wonderful succession before the party, they adjourned on foot to the great clay-pits, where they examined a beautiful artificial section of the lower green sand and Kimmeridge clay. The Professor endeavoured to explain the relations of these beds to the formations examined in the early part of the excursion, and particularly called the attention of the class to a great escarpment of *diluvial clay* with innumerable pieces of rolled chalk. It is of very great thickness and extent, forming many of the hills of cold land on the confines of Cambridgeshire and Essex; and it occupies a great part of the plateau which runs along the confines of Cambridgeshire and Huntingdonshire. It is not stratified, but, in addition to the remains of chalk, contains many fossils (such as saurian bones, &c.) derived from the older strata. Lastly, although of recent date compared with the regular marine strata, it appears to be older than most of the beds of flint gravel in the county.

From the clay-pits the whole party adjourned to the top of the

highest tower of the Cathedral, where a plan of the ancient drainage of the Bedford Level was spread out and explained. Our limits do not allow us to give even an abstract of this lecture, which consisted of antiquarian details, derived from Dugdale, and other old authorities. The ancient cut connecting the drainage of the Great and Little Ouse—the re-opening of the course of the Nene by Morton's Leam, in 1490—and the old and new Hundred Foot of the Earls of Bedford, completed respectively in the years 1629 and 1649, were chiefly dwelt upon. Lastly, after some economical remarks, connected with the drainage of the fens, the singular complexity in the hydrography of the county was accounted for by the expansion of the fens on every side of the great *outlier* of Ely.

The party then descended, and mounted for their return. They halted, just at night-fall, on the out-crop of the *lower green sand* near Denny Abbey, where the Professor addressed them for the last time; after which each man made the best of his way home, and the last stragglers of the party reached Magdalene bridge at half-past eight o'clock, after a ride of about 40 miles[1].

His rooms in College were in the Great Court—the spacious set on the upper floor next to the Master's Lodge. In his time the door faced you when you got to the top of the stairs, and the passage, out of which the bedroom and gyp-room opened, was on the south side, instead of on the north side as at present. The large room, which was arranged by his successor, Professor Munro, was divided into two, of about equal size. That next the Master's Lodge was the dining-room, and only used on state-occasions. It was simply but comfortably furnished, with plenty of chairs and sofas—and on the walls hung water-colour drawings of Dent, Norwich, and the Lake District, a portrait of Mr Dawson, and other memorials of his Yorkshire home. He habitually sat in the other. There was a large table in the centre, and the walls were lined with book-cases. The table, and most of the chairs, were covered with letters and papers, among which it was next to impossible to find anything, except by accident. Occasionally, a fit of tidiness would come upon him, and he would spend a day in sorting and burning the accumulations of the previous months; but chaos would soon reassert itself. Papers of importance had a

[1] *The Cambridge Chronicle*, 10 April, 1835.

way, in that apartment, of hiding themselves in the most strange and unexpected places. It is recorded that on one occasion, after an examination of his Geological Class, he and his co-examiner drew up and signed the list of names, which ought to have been taken to the Vice-Chancellor without delay. But Sedgwick, having to go to Norwich that afternoon, put it in a safe place, that he might not forget it. The next day the co-examiner received a telegram: "For God's sake look under the sofa-cushion. I left the list there!"

It is quite impossible to describe his daily life—because there was little or no regularity in it. His time was not his own, to be divided as he pleased; he had to pay for popularity in endless interruptions. His friends and acquaintance, whether present or absent, would not let him alone. He affected to dislike writing letters, and no doubt the enormous correspondence which his good-nature entailed upon him did worry him. "Young men and maidens," he said, "old doctors and learned divines, so overwhelm me with their billet-doux, that were my balm-pots for their troubled consciences as big as Cheshire cheese-kettles I should not have wherewithal to satisfy them. A penny-post and a large acquaintance are among my misfortunes. If I could contrive to devote a certain part of every day to letter-writing all might go on smoothly; but this never has been, and I fear never will be, my way. I am a terrible procrastinator. So I put off my letters from day to day, and then, when my unanswered file is as big as a haystack, I set to work on it, and fag at it till my fingers ache, and my poor head has no more sense than a chafing-dish." Letters naturally suggest handwriting. Sedgwick's was not good. He once happily described it as a "series of vicious inclinations;" and indeed it was a hasty scribble, flung on to the paper as fast as the pen could be made to hurry across it.

He sometimes grumbled at the number of invitations he was obliged to accept; but society, especially the society of ladies and young people, was quite essential to his happiness.

If it did not come to him, he sought it out. He paid calls; he constantly appeared, without special invitation, at the tea-tables of intimate friends; he got up parties in his own rooms; and took his young friends to any show that happened to be passing through Cambridge. No dinner-party was thought to be complete without "old Sedge"—as he was usually called—to brighten it up, and keep everybody in good humour with what Julius Hare called "the sunshine of his warm heart and of his ἄσβεστος γέλως." He was supposed to be a valetudinarian, even in his best days, and "Professor Sedgwick's pudding"—made of rice, or sago, or some equally harmless substance—invariably appeared on the bill of fare, when he was expected to be present; but I never heard that the presence of the pudding (which he religiously ate) prevented him from doing ample justice to the rest of the dinner. It amused him to joke about indigestion, waste of time, and the like; but he thoroughly enjoyed both giving dinners and going to them. Had I room, I could fill a page or two with his quaint conceits on this subject, but I must be content with a single sentence: "O those dinners! those dinners! I wish I could separate my stomach from the rest of my frame, and send my servant with it to those eating-parties, when it might receive the proper contributions (like a beggar's wallet), while my brain was employed on something better."

No record of the social side of Sedgwick's life would be complete without an allusion to the Porridge Club, of which, I believe, he was considered to be President. I am able to give a picture of him in the exercise of his functions, drawn by his own hand.

"...You would not, however, have thought me ill had you seen me this morning at half-past ten, with my sleeves turned up, a white apron tied round my waist, a handful of oatmeal in one hand, and what in Scotland they call a *spurtle* in the other, compounding and stirring a great pan of oatmeal porridge. The Marchesa Spineto and her four daughters,

Monsieur and Madame de Barneveldt from Holland, Lord Napier, Mr Gregory, and myself, all went to a village where I had ordered a Scotch breakfast, and I was elected to the office of grand master of the dish of stir-about. You did not know what honours your uncle had come to. I succeeded admirably, and then Madame de Barneveldt tried her hand, but they all voted my mess the best. So in case of a revolution, if turned out of my Fellowship and Stall, I can set up for a cook[1]."

His manners were distinguished by an old-fashioned stately courtesy, such as we associate with the wigs and the square coats of the last century. At the same time there was nothing forbidding about him. He was perfectly accessible to everybody; and would bestow the same pains upon a young undergraduate as upon one of the seniors of the University. He was careful to impress upon the junior Fellows of his College that he wished to know them, and that, if he did not speak to them, they were to make themselves known to him. "I am an old man, with dim eyes, and I cannot distinguish faces." In company he never engrossed the conversation, or laid down the law, or corrected those who were wrong with severity. In consequence, nobody was afraid of him; people talked when he was present as easily as if he had been absent; and he took up the conversation which others had started, throwing in a joke here and a serious remark there, as occasion offered. He had unrivalled powers as a *raconteur*, and when he could be started on one of his well-known stories, there was a dead silence till he had finished. "North-country *naiveté*, and irresistible grotesqueness of imagery" have been mentioned as his special characteristics by one who knew him well. To the former he owed raciness of expression, a homely downrightness of plain-speaking, which in him was admitted without rebuke. "I hate the mealy-mouthedness of these

[1] To Miss F. Hicks, Cambridge, 9 April, 1840.

times," he said in his later days, when he felt obliged to apologize for some of his narratives as too "Elizabethan" for modern ears; and in one of his conversations with Mr Salter he said deliberately: "If I write sometimes in a merry strain, and give a loose rein to the imagination, it must not be supposed that I look upon life otherwise than in a serious light. I am convinced that joy, and not gloom, should be the normal condition of a Christian's life. He has too much to make him happy to remain long depressed even by real sorrows; and to some natures God has kindly given such elasticity of spirits that they cannot refrain from merriment where others would only see what is serious and sad."

Fortunately high spirits had been granted to him in no stinted measure. Had he been differently constituted his chronic ill-health would have made him a grumbling invalid. It must be admitted that he allowed his ailments to occupy too large a space in his conversation and his letters; but in judging him—and in taking stock of what he accomplished during his long life—it must be recollected that from 1813 to his death he could never count upon robust health for even a single day. "My ailments are a flea-bite; but to have a flea always biting, and to be always conscious of the bite, would be bad enough in all conscience. And such is my case." Again, he was one of those who cannot work unless they feel perfectly well. As he grew old and weighed his own works against those of others—men whose natural gifts were no greater than his own—he would exclaim pathetically: "What a comparative blank my life has been. If I ever conceived a plan I rarely began it, or I left others to carry it out;" and again, contrasting himself with Whewell, who had sent him one of his numerous books, he says: "With you supply and demand go together in deeds, with me only in words. *Vox et præterea nihil* should be my motto!"

He was at his best when he could take plenty of strong exercise. "Like my ancient namesake," he said, "I was meant to delve in the open air, and often have I done so, and

always have been the better for it." At Cambridge his favourite exercise was riding, and he might be seen on most days on horseback, with Whewell or some of the other Fellows of Trinity College—for when I first knew Cambridge riding was the favourite exercise. He was not a good rider; and besides, rode carelessly, thinking of anything rather than his horse. Hence—in addition to the serious falls which have been already related—accidents such as the following were not uncommon: "My horse took it into its head to tumble, and rolled me over its head. I fell quite soft in a puddle, and was no worse, after the dirt was scraped off me with a knife. 'The more dirt the less hurt,' said Dean Swift on a similar occasion."

In summer-time he was fond of a long walk into the country with an intimate friend. Mr Romilly has noted several such excursions in his *Diary*—I will cite the following as a specimen.

> 9 *May*, 1838. Sedgwick and I, according to previous compact, walked to Clayhithe. We saw our fish caught, and then read and smoked till dinner at four. Our book was *Old Mortality;* we read by turns a chapter; and as we read sitting under the shadow of the great horse-ferry boat (for the sake of shelter from the scorching sun) we were amused at the interest taken in the reading by the son of our host. We walked back on the other side of the river, through Hornsea and Ditton. We drank tea at Chesterton. Home at half-past eight.

Though his means were not large, he was exceedingly generous. I have been careful to point out what large sums he spent on his Museum, and with what kind forethought he provided education and amusement for members of his own family. But this was by no means all. No public object that he thought worthy of promotion, and no tale of private distress failed to draw a contribution from him. He beggared himself for the good of others. Wherever he might be, and whatever he might be doing, he always remembered the poor, and the afflicted. Sentences like the following are of frequent occurrence in his letters: "I enclose five shillings for poor

Charlotte ——— in the Lunatic Asylum. Would you order half a pound of tea, and some sugar, and a few apples to be purchased with it, and conveyed to her? I know you will not grudge me this act of kindness, as it will tend to make a poor afflicted creature happy." Occasionally, but rarely, he felt that his good-nature was being unduly taxed, and he would turn upon petitioners with a growl: "As for begging ladies, there is no end of them! They would tear my heart out if they could stamp it into money!"

In addition to my own imperfect recollections of Sedgwick, let me now quote part of a letter from the Archbishop of Canterbury, in which he records his impressions of him during his own undergraduate days at Cambridge (1848—1852.)

Sedgwick impressed us when we went up to Trinity almost more than anyone. His grand walnut-coloured head, and his wide expressive penetrating eyes, and the wonderful northern vigour of his language, with its copiousness, and its touch of Yorkshire dalesman's tongue, were delightful.

The first course of voluntary lectures I went to were his, in my freshman's term. He impressed me with the belief that my real bent was for Geology, which made his course very vivid and instructive to me. You know better than I do, with what vehemence he lectured, shouldering his black stick and tying and untying the silk strings of his gown; and what unexpected bursts of eloquence there were, and sometimes of fancy and of humour, and how the *Vestiges of the Natural History of Creation* supplied a perpetual thread of criticism, and with what ardour and love he used to speak a word of a personal Creator, all in a flash, as it were; and of the firm faith which he expressed in Scripture, when it was set against Geology, as a record with a wholly different bent and aim.

I said how grand a sight the old man was giving vent to his convictions among his fossils in the Museum. He was grander still in chapel, in his stall opposite our great Master's stall—leaning over his folio prayer-book, and getting quite lost over something in the Psalms; standing there with his spectacles on his forehead and turning over the corners of the leaves with a quick loud rustle which sometimes continued far into the quiet of the reading of the Lessons. Then he would suddenly sit down, and again be lost in listening, and sit thinking on, well into the Canticles. We used to like best to have the Communion administered to us by him on the Sundays when the celebration came. It was the intense earnestness of Sedgwick's voice to each of us individually which thrilled us, and the emphasis with which he uttered, and paused over, the pronouns:

"The Body of our Lord Jesus Christ which was given for *thee*—preserve *thy* body and soul."

To hear the Master and Vice-Master read the Lessons at Easter and Whitsuntide was a thing not to be forgotten. The tones of both, and the different points they seemed to direct us to, still ring in my ears. Sedgwick seemed always so struck with any physical phenomenon. "He took off their chariot-wheels, so that they *drave* (or rather with a dalesman's accent, *draave*) heavily." Then came a pause as he contemplated the horror of the situation.

It would be beside my purpose, in these notes, to attempt an analysis of his character. Each reader of his letters must form a conception of it for himself. But I may quote a brief summary by one who knew him in the intimacy of everyday life. "He was transparent and straightforward—the very soul of uprightness and honour—tender and affectionate—most generous and kind. He had a hatred of all duplicity and meanness. He was entirely unsuspicious of evil, unless it was forced upon his notice; and he expected and believed everyone to be as straightforward and truthful, as he was himself. I do not think any man was so *beloved* by his friends, as he was." To this I would add but a single line —from Mr Kenelm Digby's *Ouranogaia*—"Sedgwick past compare."

CHAPTER VIII.

SEDGWICK'S GEOLOGICAL WORK.

WE have pointed out in the course of our narrative when Sedgwick went into the field, and when he published the results of his observations. We have also touched upon the manner in which his work was received, and its bearing on the questions then from time to time under discussion. We may now review briefly what was achieved by him, and its place among the works of permanent value to Geological Science.

It is impossible, as already pointed out[1], to ascertain the exact amount of Geological knowledge which Sedgwick possessed when appointed to the Woodwardian Chair; but in the following year we find him making observations in the field of such a character, and taking up such an independent position in regard to questions which are matters of controversy even to-day, that we cannot but feel that

[1] See above, Vol. i. pp. 159—165. To what was there said a part of a letter from Sedgwick's opponent Mr R. W. Evans to Dr Butler of Shrewsbury, dated 13 March, 1818, may be added: "An Opponent has started up against me in my own college, Sedgwick, who does not pretend to know anything of the subject, but is very strong in his Connexions, being a North Countryman, who all hang together most perseveringly, and are in great force in this place....I feel very much provoked at being opposed by a man so little qualified for what he aims at: all that his friends venture to say is that a study of three months will be sufficient to qualify him. I have pursued it more than twice as many years."

he was familiar with the methods of field-geology, and with the literature of the subject. But, whether he approached the investigation as a novice or with some experience, he clearly established some very important points as early as 1819, when, on stratigraphical and palæontological evidence, he assigned their proper positions to that portion, at any rate, of the Devonian Rocks of which he was writing[1].

For Sedgwick, therefore, we claim the honour of having done most to establish the true relations of the Devonian Rocks—first by his early work alone in 1819, afterwards by his joint work with Murchison, and, lastly, by the work which he did when he returned alone in 1837 and 1838, and cleared up many errors and difficulties still obscuring the results of their joint work[2].

In the next place we refer to the short account of what Sedgwick did towards establishing the true position of the Upper and Lower New Red Sandstone or Poikilitic Series, which we have given in an earlier chapter[3]. He says that he began the examination of the district in 1821, and acknowledges the assistance he had derived from the maps of William Smith in his examination and comparison of adjoining areas, though they were not published for that part of the district to which his paper chiefly refers. He acknowledges also the excellent work of Mr Winch in Durham and Northumberland[4], of which he had an opportunity of verifying the details in 1821.

Sedgwick published the results of his own work in 1826–8. Briefly it amounts to this, that he correctly described, and placed in true relation with the other rocks of Great Britain, all the lower part of the New Red Sandstone or Poikilitic Series. In the lower part of these rocks there is on the east of the Pennine Range a great local development of lime-

[1] See above, Vol. i., pp. 285—287.
[2] *Quarterly Journal* of the Geological Society, viii. 6.
[3] See above, Vol. i. p. 294.
[4] *Transactions* of the Geological Society, Old Ser. iv. pp. 3—10.

stones containing a large proportion of carbonate of magnesia, and therefore he called it the Magnesian Limestone Series. A few years later he described the corresponding rocks on the west of the Pennine Range in the Eden valley, and also the New Red Sandstone of the north-west coast. He fully recognised the fact that some of the red sandstones at the base of the Magnesian Limestone Series are only stained Carboniferous, or, as he puts it, that "the gritstone beds of the Carboniferous series are here and there of a deep red colour, and cannot always be distinguished from the New Red Sandstone," especially where there is an accidental coincidence of dip. He points out that the "lower Sandstone overlying the Whitehaven Coal Field...contains... impressions of *Equiseta*" (or Calamites). "The Magnesian Conglomerates," he observes, however, "cannot be classed with this lower red sandstone, to which they are sometimes unconformable; but they graduate into, and form an integral part of, the Magnesian Limestone, sometimes appearing entirely to replace it."

This classification he adheres to, although he fully recognises "that the Magnesian Limestone, notwithstanding its unconformable position, is in zoological characters more nearly allied to the Carboniferous order than to the calcareous formations which are superior to the New Red Sandstone."

We give a diagram to explain what Sedgwick described as the Magnesian Limestone Series. We need not complain that the distinctive word *Magnesian* is not always applicable as long as we use so many other names derived from characters of local and limited occurrence, such as Carboniferous, Trias, Keuper, Corallian, &c.

The Magnesian Series passes up into the Upper New Red Sandstone, but rests unconformably upon the Carboniferous rocks. There are local irregularities of deposition, and evidence of contemporaneous erosion in it, as well as here and there throughout the overlying parts of the New

Red, but they are such as are common in most basement-series, and hardly amount to an unconformity.

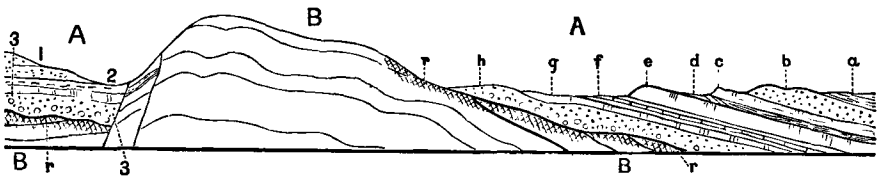


Diagram showing the subdivisions of the Magnesian Limestone Series in the North of England, and their relation to the Carboniferous Rocks.

In the above diagram, which is not drawn to scale, we have merely indicated the subdivisions which Sedgwick established in the Lower New Red or Magnesian Series of the North of England.

A. New Red Sandstone, (Poikilitic)[1].

I. Upper or Saliferous Series (Trias).

Sedgwick did much work in this Series, and was the first to correlate the 'Upper Marls' of England with the Keuper of Germany.

II. Lower or Magnesian Series (Permian or Dyas).

East of the Pennine Range.

a. Upper Red Marl and Gypsum.
b. Upper Red Sandstone.
c. Grey thin-bedded Limestone.
d. Lower Red Marl and Gypsum.
e. Yellow Magnesian Limestone.
f. Marls with thin beds of compact Shelly Limestone.
g. Marl-slate with ditto.
h. Lower Red Sandstone and Conglomerate.

West of the Pennine Range.

1. Upper Red Sandstone.
2. Red Sandstone with subordinate yellow fissile beds and bands of Magnesian Limestone and Marl (equivalents of *c.* to *g.*).

[1] See Woodward, *Geology of England and Wales*, Lond. Philip and Son, 1887. This manual will be found of the greatest value to those who would follow these notes on Sedgwick's work.

3. Conglomerate abounding in fragments of Mountain Limestone—generally in a magnesian cement, passing into sandstone, often hardly to be distinguished from the underlying red Carboniferous rocks.

B. Carboniferous.

(With *r* whatever beds happened to be at the top stained red.)

On the west side of the Pennine Range the Magnesian Limestones have thinned out, and in places quite disappeared. The brecciated conglomerates at their base, however, are at the south end of the Eden valley of great thickness. These pass upward into sandstones with thin bands of magnesian limestone and marl, but, as we trace them to the north and west, the conglomerates give place to the finer deposits.

All this Lower New Red is now called Permian, and the credit of working out the true relations of the series is commonly given to Murchison, who, having rapidly traversed the district of Perm in Russia, grouped a number of different formations which occur in it under one local name, Permian, and then absorbed into it Sedgwick's Magnesian Limestone Series. If Murchison's Permian is the same as Sedgwick's previously described Magnesian Limestone Series, then all that Murchison did was to find that certain rocks on the continent were the equivalents of the Magnesian Limestone Series, but that does not entitle him to priority of classification and nomenclature, any more than the discovery in a new locality of an already well-known species entitles the discoverer to rename it. Moreover the Permian, under various names, has by many been bracketed with the Carboniferous Rocks, rather than with the overlying Series; a classification suggested by the large number of palæozoic forms of life which were found in the Magnesian Limestone. But this was known to Sedgwick, and the amount of discordancy much discounted in consequence of it. It was what might be expected in a basement series—and the weight of the argument is much reduced by the fact that on the continent a

very palæozoic facies occurs even in the Triassic Limestones at much higher horizons. In every system the old forms are found going out gradually, not disappearing at once, in the basement beds. In his later paper on the New Red Sandstone Series, p. 401, Sedgwick allows that the similarity in lithological character between the Sandstones of the lower part of the New Red Series and the upper beds of the Carboniferous, together with the palæozoic character of the Magnesian Limestone fossils, and the fact which he had himself verified, that the Carboniferous Rocks pass down into the Old Red Sandstone, lend some support to the view advocated in Germany, that the Carboniferous is an integral part of a great system commencing with the Old and ending with the New Red Sandstone Series. He says also that he would be willing to adopt the classification which found some favour in England, and include the Carboniferous and New Red Sandstone in one great group, provided this classification did enable us to place in their true relation, as determined by considerations founded in nature, the varying types of different remote countries.

We see in this a leaning to the German in preference to the newer English classification, but, when we look into Sedgwick's own earlier work and the conclusions at which he arrived, we find there the true view of the facts, and the classification which must in the end prevail, namely, that the conglomerates at the base of the Magnesian Limestone Series mark the commencement of a new order which is clearly distinct from that which went before, and we claim for him priority of correct description of all the series of rocks now called Permian.

We have pointed out what appeared to us to be his plan of work among the Carboniferous Rocks of the North of England[1]. It was a fine piece of local stratigraphy, and no one can touch that ground without acknowledging it. But the general classification of the rocks of that system was

[1] See above, Vol. i. p. 531.

already established, and though he filled in many details, and added much to our knowledge of the subdivisions and to their nomenclature, still there was no room there for much that was new and original.

Sedgwick, as we learn from his remarks on mineral veins made to the British Association in 1832, where he described: (1) veins of injection; (2) veins of segregation; (3) infilled fissures; had long paid attention to the structure of large mineral masses, and his great paper on that subject in 1835[1] is a chapter in the Principles of Geology of the greatest value, and places him in the front rank of those who have offered explanations of the superinduced structures which have made the solid rocks with all their varying forms out of the muds and sands of former ages.

Sedgwick was among the pioneers of a new subject, and in original observation of the phænomena, and criticism of the various hypotheses brought forward in explanation, he did as much as any man to promote the true methods of investigation, and a candid discussion of the results. But, for his own reputation, it might have been better if he had been more prompt and energetic in placing his views on paper before the public, and in compounding sonorous titles with which his name might have been for ever connected.

We have already, in the above short sketch, referred to a mass of work sufficient to make the reputation of any ordinary man, but we have not yet summarized the great work of Sedgwick's life—the establishment of the Cambrian System. We will, for convenience, continue to apply the old name Greywacke to all that we now call Cambrian and Silurian. The Devonian was, in part at any rate, once considered to belong to the same group, and some of its subdivisions were supposed to be on the horizon of the Caradoc Sandstone, but that was simply an error of identification. He began to study these rocks very early. At the commencement of his paper on the general structure of the

[1] See above, Vol. i., p. 535.

Cumbrian mountains, read to the Geological Society 5 January, 1831[1], he tells us that it is the result of observations made principally during the summers of 1822, 1823, and 1824. "My best fossils from Kirkby Moor," he wrote to Wordsworth[2], "were procured in 1822, under the guidance of Smith, the 'father of English geology,' on the day I first became acquainted with him," and for some of the facts he mentions in the appendix to his letter he refers to "a county survey coloured by myself in 1822."

In giving a sketch of Sedgwick's work among these older rocks we shall find some unsettled points of classification, carrying with them a disputed nomenclature which serves as an index to the scheme adopted. Unfortunately such questions can seldom arise without much feeling of a purely personal character being imported into them. It must be so as long as human nature remains the same—but the scientific controversy is not at all a thing of the past, to be regretted and buried as soon as possible. The difficulty is such as commonly occurs during the course of an investigation where two observers are following up similar lines of enquiry; and one of them, by greater skill or happier opportunities, is able to come nearer to the true interpretation, or successfully to commend his own view to those who are acknowledged to be, or by self-assertion constitute themselves, the arbiters.

The principals in the dispute have long since passed to their rest; but many remain who have so strongly committed themselves to one side or other of the controversy, that it is still impossible to avoid offending some susceptibilities. A fair and well-supported statement of the facts, however, cannot but commend itself to the general public as preferable to mere innuendos, or apologetic allusions to what were once considered as great wrongs. We do not propose to refer to

[1] *Transactions* of the Geological Society, Ser. 2. IV. 47.

[2] *Third Letter to Wordsworth on Geology of Lake District:* in Hudson's *Guide to the English Lakes*, 5th ed. 1859, p. 202.

the many subordinate questions that arose as the controversy became alternately dormant or was fanned into flame. It will not help us in clearing up the real question to enquire whether Murchison always let Sedgwick know how matters stood before he published, under names brought into accordance with his own views, work which Sedgwick had already done. All we shall say is that Murchison thought his was a better system, and, with his usual vigour and promptitude, pushed it into notice. His official position moreover, as Director General of the Geological Survey, enabled him to enforce his views of classification and nomenclature upon the publications which would most largely determine the adoption of his terminology; an advantage of which he fully availed himself. Nor shall we enquire into all the details of Sedgwick's wrathful reclamations—how he angrily accused Murchison of having published without giving him full opportunity of protesting against some of his assumptions, when it is very probable that he might have ascertained all about it, if he had attended in time; or might even have known the facts but not appreciated their bearing upon the leading points of the controversy; or, in the multiplicity of other engagements, have let them slip from his memory altogether. We do not propose to describe the weapons with which they fought, so much as the causes of the quarrel; though our sympathy may be with the fierce indignation against apparent injustice, and the courage and dash of the one who threw his shield away and rushed on the armed foe.

It might, from a scientific point of view, be urged that there is not much to be gained by raking up the embers of an old controversy, and that all that is desirable is to ascertain, from the best authorities of the day, what is the most convenient classification in the present state of our knowledge. But if, in the course of that enquiry, it should transpire that all the modifications which have been adopted as the outcome of more recent work, with greater knowledge and better

appliances, have only shown a return to the original scheme drawn up by Sedgwick, and that Murchison's deviations from it have proved to have been founded upon mistakes, surely, in common fairness, this should be acknowledged. At any rate Sedgwick's biographers cannot pass over this point, but must explain why he was so indignant at the treatment he received, why he harped upon the theme that his work had been set aside, and, though much of it was afterwards recognized as correct by his opponents having adopted it, that they did not sufficiently acknowledge that they were publishing, under new names, what was really his work. We must therefore ask our readers to follow us through a short history of the progress of enquiry in the Greywacke rocks.

These consist of great masses of sand and mud, with here and there evidence of volcanic outbursts—the age of the lavas and ashes being known by their place among the marine sediments—so that the first thing that had to be done, with a view to working out the history of these deposits, was to arrange the sediments in order according to their date of formation, and to explain how they were twisted and repeated in great folds across the country. Difficulties arose when the attempt was first made to identify the various series of deposits in different, more or less widely separated, areas, because, while volcanic outbursts furnished most of the material in one district, nothing but ordinary marine sediment was being laid down 20 or 100 miles away, and the beds could not be traced continuously from one part of the country to another. We will draw a generalised section embodying so much of the sequence of the Cambrian and Silurian rocks as will be necessary for reference with a view to an explanation. We will, by reference to that diagram, point out what is now generally received as the classification which is most true to nature. We will trace the progress of discovery by which Sedgwick and Murchison filled in the details of that section, and let our readers judge for themselves who has the

most just claim to the honour of having established the true relations of the rocks of North Wales.

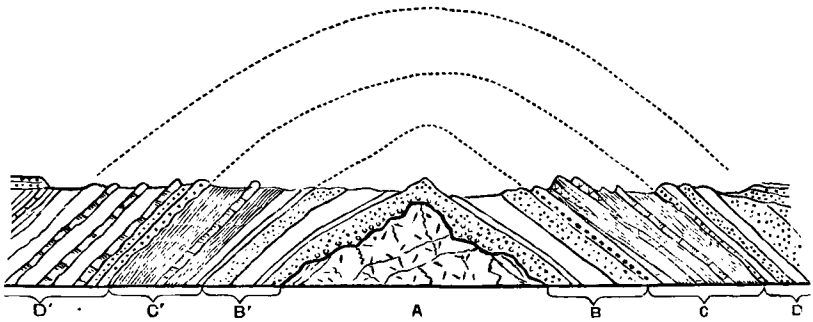


Diagram to shew variation of Cambrian and Silurian rocks in N. and S. Wales.

In the above diagram we have represented at the base the primæval land (A) upon which the Cambrian Rocks were deposited. This was an irregular surface, with hills and valleys, and therefore the basement beds of the Cambrian were variable in character according to the part of the Archæan group from which the material was derived, and also of different thickness according as it filled up the ancient valleys or crept up the mountain sides of the gradually submerged land. The sinking went on and the sediment accumulated through long ages, during which successive migrations peopled the sea with new forms of life, and local changes caused coarser or finer material to be carried over different areas from time to time. This has enabled us to arrange the deposits under divisions convenient for reference —the more marked changes in the nature of the sediment often, but not always, coinciding with the incoming of new forms of life, and the disappearance of those prevalent there before. The first great division (B), includes four principal subdivisions, named as follows, in ascending order.

B 1. *Harlech Series.* So called from its forming the great mountains which rise inland at the back of the town of Harlech.

B 2. *Menevian.* A smaller subdivision at the top of the former, more recently distinguished under the above name.

B 3. *Ffestiniog or Lingula Flag Series.* So named from the town of Ffestiniog in Merionethshire, and from a conspicuous fossil shell.

B 4. *Tremadoc Slates.* Above the Lingula Flags comes a series named from its occurrence near the village of Tremadoc at the mouth of the river Glaslyn, which runs south from Snowdon.

At this horizon there is a greater change in the sediment and in the forms of life, which it is convenient to indicate by a new bracket (C). The ages of *Paradoxides* and *Olenus* have passed away, and a great development of graptolites characterizes the epoch on which we are now entering. The lowest subdivision (C 1) is named from the mountain Arenig, where it consists of alternations of great masses of volcanic *ejectamenta*, and thin beds of shale with graptolites. The next subdivision in ascending order (C 2) is named from the town and lake of Bala in Merionethshire, around which it is well seen. It is characterised by the general predominance of the genus *Orthis* over all other fossils. The highest subdivision (C 3) takes in all the beds from the top of the limestone of Bala to the lower limestone of Aberhirnant inclusive. The Bala series is covered by great masses of flags and grits (D) which form the hills round the vale of Clwyd, and are called Denbigh Grits and Flags from the county of that name, for the picturesque castle and town of Denbigh, though surrounded by Silurian rocks, stand on the Carboniferous Limestone.

Here again we find, in the Denbigh Grits and Flags, that great changes have set in, and new forms of life have taken the place of those that prevailed during the deposition of the Bala rocks. On the whole too there is much difference in the character of the sediment. Moreover the base-line of the whole division is well-defined, and easily traced. If we wanted a palæontological name for this division we might call it the *Cardiolan* Fauna, as *Cardiola interrupta*, as far as known at present, occurs all through it, and not above it or below it. Sedgwick distinctly recognised this fauna in 1838[1].

[1] *Proceedings* of the Geological Society, II. 680.

Barrande has recognised the three principal divisions (B), (C), (D), and named them, from the order of appearance of the new groups of fossils, First (or Primordial) Fauna (B); Second Fauna (C); and Third Fauna (D); but he missed the great distinction between the Paradoxidian and Olenidian faunas, and was misled with regard to the range of *Cardiola interrupta.* This was very unfortunate, as he founds some important reasoning upon the supposed occurrence of this species in the Bala Series.

Now in South Wales most of these deposits can be identified by their lithological character, and fossil contents; but there are cases in which we see that the conditions have been somewhat different in the northern and southern areas. The clear water necessary for the growth of limestone-forming corals; or the currents which transported great banks of shell; or active volcanoes, scattering ashes over the neighbouring sea-bed, did not always occur at the same time in the two areas. We find the Archæan at the bottom in both. The representatives of (B) can also be made out in North (B) and South (B'), though the lower beds thin out and are overlapped as we approach the pre-Cambrian shore. In the beginning of the age marked (C 1) there was an active volcano somewhere near Arenig which poured out great masses of lava, and covered the country round with ashes and cinders, while mud was being deposited further south, with only a few traces of volcanic *ejectamenta* which had been carried along by currents, or which perhaps in some cases marked more violent eruptions in the adjoining district. Geologists did not at first recognize that there were in the south any rocks of the same age as the great porphyries and interbedded graptolite shales of Arenig. So also a little higher up in the same division, in the age marked (C 2), we find on Snowdon evidence of there having been an active volcano close by in the masses of volcanic *ejectamenta* which form the great precipices above the Half-way-house. The ashes from this volcano do not appear to have been carried very far in the direction of Bala,

and hardly any traces of them occur in South Wales. Still the sediment thrown down during the period of activity of this volcano can be traced by the identity of the forms of life over very wide areas, far beyond the region affected by the volcanic outbursts, and this volcano which furnished so much of the material of the higher part of Snowdon is of later date than that of which we see evidence in the lavas and ashes of Arenig.

In the upper part of this series (C′) the sediment on the south and south-east is often found to consist of sand and grit, instead of the fine mud with which we are familiar in the Bala district, and fossils are often very scarce; indeed we may say that as a general rule the fossils we call characteristic do not occur *all through* any of the subdivisions of these older rocks. Only here and there do we find bands full of the hard parts of the animals that lived close by. As more and more of such fossiliferous zones are discovered and traced across the country, or recognised at long intervals by the large proportion of identical forms of life, so the interpretation of the structure of the country is by degrees arrived at.

The calcareous bands of Bala are sometimes hardly distinguishable from the rest of the shale, while not far off they develope into good hard limestones quarried for building and burnt for lime. The limestones of the Lower Bala Beds of Llandeilo in South Wales (C′) are probably on a somewhat lower horizon than any of the important limestones near Bala, but are represented by calcareous bands in some parts of North Wales.

We now come to a great interruption in the continuity of deposition and of life; but in the next succeeding series of deposits also we find the same kind of local variation in the character of the sediment and in the creatures that lived on it, and left their remains to be buried in it.

In South Wales and the border counties the beds at the top of the Bala series are succeeded by the May Hill Sandstone (D′ 1), a great thickness of sandy mudstones with

a group of fossils quite different from those of the Bala Beds (C′ 2). These are represented in the north by a small irregular and inconspicuous set of sandy or gritty deposits; and further, whereas in the north the next overlying beds consist of masses of coarse sandstones and flags—the Denbigh Grits and Flags (D′ 2), (D′ 3)—with few distinctive fossils, and those widely scattered; in the south, on the other hand, the Wenlock and Ludlow shales and sandstones, which come on where we should expect the Denbigh Grits and Flags, are full of fossils, and moreover are over a large area split up by three important and highly fossiliferous limestones which are easily traced, and greatly facilitate the following out of those arbitrary divisions so convenient for reference.

Sedgwick worked out the northern district; Murchison based his system upon the southern types.

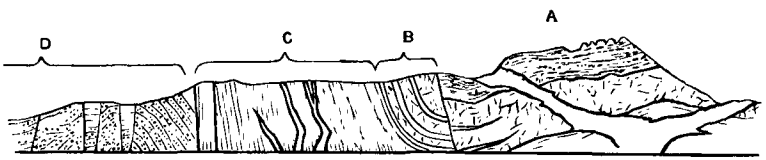
We have thought it necessary to dwell at some length upon the distinctive characters of the two areas, in order to explain how it was that when Murchison visited the North Wales Sections, and Sedgwick made traverses across South Wales, they did not both of them see at once which were the exact equivalents of the rocks with which they were familiar in their own districts. We will in the next place follow up the history of the investigations which each carried on.

We have seen how Sedgwick, after explaining the relations which the great rock-masses forming the mountains of Cumberland and Westmorland bear to one another and to the newer rocks which surround the Lake District, suddenly dived into the heart of North Wales[1]. Perhaps he thought that he might in that way get some help towards understanding the ancient central masses of the Lake District which he had so long set himself to explain: for we must remember that he had been working among the Silurian and Bala Rocks of the Lake District since the year 1822[2]. At

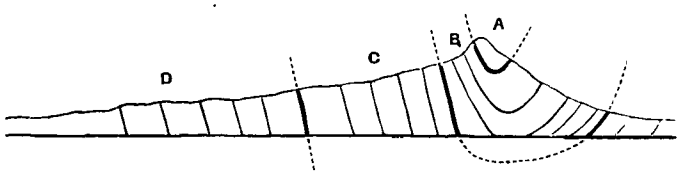
[1] Vol. i. pp. 377—382, 533.
[2] Ibid. pp. 246—256, 531.

any rate we know that he went to work in North Wales with a good will, and with some very useful experience on similar ground; for on Arenig and Snowdon he found again the rocks of Skiddaw and Borrowdale. Though many a native could tell him that rocks like those they were looking at appeared again in other places, no local geologist had unravelled the complicated masses of North Wales. Single-handed he grappled with the difficulties of that rough and complicated area. On his first excursion in 1831 we find him writing to Murchison (13 September)[1] that he had nearly completed one *base-line*, and that the rest must be done by traverses. He further tells him that he had made out the structure of Snowdon.

In November, 1831, Sedgwick gave to the Cambridge Philosophical Society "an account, illustrated by sections, of the geological structure of Caernarvonshire[2]." Some of his



I. The Survey section across Snowdon, 1858.



II. Sedgwick's section across Snowdon, 1831.

old diagrams have been preserved, that across Snowdon for instance, drawn in 1831. This we reproduce, with a reduction from the Geological Survey section of a quarter of a century later, to show how Sedgwick had at once got hold of the essential point in the structure of the district: namely, that

[1] Vol. i. p. 379.

[2] Minutes of the Society.

the rocks of Snowdon were newer than the masses of slate and grit to the north of it, and that the top of the mountain formed a great synclinal fold.

Murchison also had laid the result of his work on the borders of Wales before the British Association at York in 1831. The short note in the *Report* of the meeting tells us that he shewed on a coloured map the distribution of the Old Red and the Carboniferous rocks, and their relation to the Transition rocks. The subdivision of the Transition rocks was not yet attempted—only their local delimitation from the overlying series. In fact, as he himself puts it, he only "explained the discovery of an infraposition of certain beds of unfossiliferous Greywacke to the lowest member of the old red sandstone[1]."

In June, 1832, Sedgwick laid before the British Association at Oxford a map and sections in illustration of the geological structure of Caernarvonshire. "On that occasion I dwelt especially on the position of the fossiliferous trough of Snowdon, and on its strike along the Caernarvon chain; and I shewed, on the unequivocal evidence of sections, that the fossil-beds were many thousand feet above the great slate-quarries of Nant Francon and Llanberis....I never considered (as is erroneously stated by the author of *Siluria* p. 9) the fossiliferous trough of Snowdon 'to lie near the bottom of the so-called Cambrian rocks.' I proved the contrary by the direct evidence of sections: viz. that commencing with the (Harlech) grits over the great Nant Francon or Llanberis quarries there was an ascending series through *more than two miles of highly inclined beds* before we came to the fossiliferous trough of Cwm Idwal or of Snowdon. This was one of the main points of my lecture in June 1832, and my friend Murchison was, if I mistake not, present when I gave it[2]." Immediately after the meeting Sedgwick went back to Wales to follow up the work. Fortunately we have his old

[1] *Quarterly Journal* of the Geological Society, viii. 174.

[2] *British Palæozoic Rocks*, etc. p. xli, and *note*.

diagram illustrating the succession of the rocks between the Menai Straits and the Berwyns, and also a rough sketch made for Murchison in July, 1832[1], which shew that he had already got the correct view of the structure of the country. To make this perfectly clear we reproduced, by permission of the Director-General of the Geological Survey, a portion of the Survey index-map of North Wales[2]. On this are shewn the boundaries of the Sedimentary rocks as known to the Survey in 1858, and such other geological information as could be introduced on the scale of four miles to one inch, which is on nearly the same scale of distance as that of Sedgwick's sketch. On this map are traced also the lines of the published Survey sections, and we have indicated by strong black lines the direction along which Sedgwick drew the transverse sections which he sent to Murchison in 1832.

Sedgwick's section, shortened into a diagram, stands thus, putting in nothing that he had not mentioned.

Sedgwick's section across the Cambrian System in 1832.

Sedgwick's description.	*Explanation.*
1. Porphyry of the Menai.	In modern phraseology, the porphyritic rhyolite and associated rocks of Archæan age.
2. Slates and Porphyry.	The Cambrian rocks between the two great ribs of Archæan rhyolite (1), (3).
3. Porphyry.	The Southern or Llanberis ridge of Archæan rhyolite, &c.
4. Great Zone of roofing Slate and coarse Greywacke.	The Penrhyn and Llanberis Slates, with the associated grit and conglomerate at the base; and above, the grit of Bronllwyd, Filiast, &c. with subordinate slaty beds as seen, e.g. in Nant Ffrancon.

[1] See above, Vol. i. p. 394.

[2] Ibid. p. 395.

5. Porphyry of Mynydd Mawr.

The intrusive rock of Mynydd Mawr [see Harker, *Sedgwick Prize Essay* 1888, pp. 43, 50], towards which the strata dip on either side owing to faults and crushes [see Geol. Survey one-inch map, Sh. 75 N.E. and index map, p. 395 *supra*].

6, 7, 8, 9, 10. Slate and Porphyry blended together in endless confusion but not destroying the traces of stratification. In consequence of the five anticlinals the same stratified masses are repeated again and again, so that at the Merioneth anticlinal x and y are on the parallel of No. 4.

The Arenig and Bala Series, which roll over and over, and occupy most of this area; the volcanic beds are inter-stratified, not intrusive, as was that of Mynydd Mawr, just described. The anticlinal which brings up the Harlech series between Ffestiniog and Dolgelly is prolonged to the N.E., so that beds of the age of those seen at the North end of Nant Ffrancon (4), i.e. Lingula Flags, turn up again between Manod and Arenig, and therefore even Arenig beds might be expected in the synclinal of Mynydd Mawr.

[We have here added Roman numerals to refer to some further details given in the body of the letter.]

xi. The Rocks of the Arenig Chain, in which "the whole region forms the side of a great saddle, dipping about E.S.E., much interrupted by...masses of porphyry which...range with the strata."

Arenig Series.

xii. "The porphyritic system of Snowdonia."

Bala Volcanic Series.

xiii. "Bands of black shelly Limestone of the Berwyns and Bala...identical with the transition lime which separates the Greywacke of Westmoreland from the great system of green slate and porphyry of the central mountains of Cumberland" = a of section p. 394.

Bala and Coniston Limestone.

xiv. "ditto at the top of the Berwyns" = a' of section p. 394.

xv. "supposed reappearance of the same beds of limestone on the east side of Montgomeryshire" = a'' of section p. 394.

xvi. "Newer rocks between the Vernwy and the Severn, which form the base of the system in which you [Murchison] are working."	Silurian.

It will be noticed that the sequence of numbers is geographical, not geological, but reference to the above diagram will enable those not familiar with that most difficult area to follow Sedgwick's traverse, and to appreciate his shrewd identification of strata turning up at distant spots, and to realise what a marvellous piece of work it was for any one to have done single-handed, especially in 1832, when there were no good maps, and practically nothing was yet known of these older rocks.

The section runs across the whole of Sedgwick's Cambrian. The name had not yet been suggested, but here we see the structure of the mountain region of North Wales, the general grouping of the rocks, and their relation to one another clearly indicated. Whatever is right in this section Sedgwick may fairly claim, as there is nothing of Murchison's of that date to compare it with, and it was many a long year before the Survey touched that country. We must now ask: how does this early sketch of Sedgwick's look in the light of later work? In order to do this we have to refer to the Survey maps and sections of a quarter of a century afterwards.

The Survey Section (sheet 28) traverses nearly the same country as the north-western end of Sedgwick's section I.[1]; while part of the section on their sheet 32 coincides exactly with its continuation to the S.E., which Sedgwick has marked section II. Again, sheet 37 of the Survey gives a section along the same line as the westerly half of Sedgwick's section III., while the east end of Sedgwick's section III., the part, namely, from Rhobell to Careg y Big, traverses very nearly the ground shown in the S.E. part of sheet 29 of the Survey. We have therefore an opportunity of comparing

[1] See Vol. i. p. 391.

the two, and of seeing how much more detail it was thought possible or desirable to put on a map on about the same scale of distances as Sedgwick's sections; and how much on sheets and sections the scale of which is 24 times larger.

It will be seen by reference to Section No. 28 of the Geological Survey published in 1853 that they have not given very much additional information as to the structure of the country beyond what Sedgwick gave nearly a quarter of a century before.

The Archæan rocks, Sedgwick's No. 1, are described as trap composed of *Felspar and Quartz generally imperfectly crystallised. Silurian and Cambrian Rocks altered in contact with this mass.* Murchison, in the first edition of his *Siluria*, adopted the suggestion of De la Beche that these were altered Cambrian. This at any rate is not the received interpretation now.

Sedgwick's No. 2 on the Survey Section includes *Cambrian Conglomerate and Sandstone*, and, above that, *Black incoherent Shales and Sandstones—Lingula Beds*, all of which are bracketed as *Lower Silurian.* Most of these shales are now known to be of Arenig age.

Sedgwick's No. 3 is described as *Greyish and blue quartz porphyry.* The Cambrian conglomerates that rest on it have often at the junction been nearly fused, and their bedding has been almost obliterated.

Sedgwick's No. 4 is described on the Survey Section as alternations of purple slate; *Greenish grey and purple quartzose sandstone and conglomerate with grains of felspar*, covered here and there by *Lingula Sandstones and Slates.*

Sedgwick's No. 5 does not occur in the line of the Survey Section.

Sedgwick's Nos. 6 to 10 are shown as Slaty and Sandy beds alternating with volcanic *ejectamenta* not subdivided, but covered by a general description of *Llandeilo and Caradoc or Bala*, all referred to *Lower Silurian*, and represented as

repeated by synclinal and anticlinal folds across Snowdon, Cnicht, Moelwyn &c.

The south-east end of Sedgwick's Section of 1832 is reproduced almost exactly on the Survey Section sheet 32, which shows the synclinal which carries the Bala Limestone under the Silurian rocks of the Berwyns, and the anticlinal over which it rolls, plunging again under the newer rocks of Montgomeryshire.

According to the best information we have at the present time (see section, p. 512) Sedgwick's sketch, drawn so early as 1832, was right, so far as it went; it gave as many details and subdivisions of the stratified rocks as the Survey found possible to give on the same scale a quarter of a century later; and it included all the Bala Beds, and placed them in their true relation. It should be remembered, moreover, that Murchison was present when Sedgwick read the paper which this diagram illustrated, and that the MS. sketch and letter which we have reproduced, Vol. I. p. 391, was in Murchison's hands while he was directing the work of the Survey, and while he was carrying on a controversy with Sedgwick as to the classification of the Cambrian and Silurian Rocks, and as to which of them first established the true position and sequence of the Bala series.

Murchison remarks upon this point in 1852: "Professor Sedgwick's first communication to the public on the structure of North Wales was made to the British Association at its second Meeting in 1832, and is entitled *A Verbal Account of the Geology of Caernarvonshire*, which is reported in a few lines of type, in which no allusion is made to an order of succession in relation to any known stratum, nor to rocks characterised by any organic remains[1]."

We claim for Sedgwick that he had in 1832 explained the geological structure of North Wales; had sketched out the leading subdivisions of the Cambrian Rocks; had established the correct sequence of the Arenig and Bala Series, and

[1] *Quarterly Journal* of the Geological Society, viii. 174.

had placed them in true relation with what were afterwards known as the Silurian (Upper Silurian of Murchison) in Central Wales and the borders.

We do not gather that Murchison had at that time done more than mark off the Old Red and Carboniferous of the border-land from the great mass of Transition rock which rolled over and over through Wales to the sea—in fact what Sedgwick had done years before in the Lake district[1].

During his early excursions in South Wales Sedgwick seems to have given all the information he could to Murchison by letter; and, in conversation afterwards, to have freely discussed all his tentative groupings and hypothetical explanations of difficulties of structure. For instance, in a letter dated Nov. 15, 1832, we find that he explained the exact position of the Wenlock Limestone south of Llandovery, and even drew a section for him from the Lower Bala rocks, which are seen here and there along the valley of the Towy, to the Old Red. This is a rough sketch intended merely to indicate the position of this limestone, to which he had, as we gather from the context, drawn Murchison's attention in a previous letter. But, as far as it goes, the sketch is correct. Murchison, however, sometimes acknowledged the pence due to Sedgwick, but forgot to mention the pounds. In this case it would appear that Murchison had forgotten that his attention was first called by Sedgwick to the occurrence of the Wenlock Limestone along this line of country.

In 1833 Murchison read a paper before the Geological Society, in which he divides the rocks which had "hitherto been known only under the common terms of Transition rocks and grauwacke" into six groups:

1. Upper Ludlow; which, however, he confounded with the Tortworth Sandstone.

2. Wenlock Limestone, which he describes as including the Aymestry Limestone with *Pentamerus*, afterwards shown to be on an entirely different horizon.

[1] See above Vol. ii. pp. 508, 509.

3. Lower Ludlow, under which title he evidently refers to the Wenlock with its characteristic *Phacops* (*Asaphus*) *caudatus*, and part of what he afterwards included in the Caradoc with *Pentamerus oblongus* (*lævis*).

4. Shelly Sandstones. He does not assign their geological position to these, but from his description they evidently include the rest of his Caradoc.

5. Black Trilobite Flagstone characterised by *Asaphus* (*Ogygia*) *Buchii*—evidently the Llandeilo Flags.

6. Red Conglomerate Sandstone and Slaty Schist, under which he includes all the rest of the older Palæozoic Rocks.

A very great advance was made by Murchison in 1834[1]. Most of the errors in his classification of the Ludlow and Wenlock Rocks are here corrected; but his Horderley and May Hill Rocks are not the equivalents of what is now called Caradoc. They included beds of very different ages, some belonging to what he afterwards called Upper Silurian and some to the Lower. It must also be remembered that the Trilobite Flags of Llandeilo cannot, in any classification now received, be taken as the base of such a system as the Silurian. In this connection a remark of Murchison's, to which prominence is given in the short abstract of his communication made in the following year to the British Association at Dublin, is of great importance: "that in South Wales he had traced many distinct passages from the lowest member of the 'Silurian System' into the underlying slaty rocks now named by Professor Sedgwick Upper Cambrian;" the truth being that the Llandeilo flags passed down into the underlying beds, and did not themselves form a basement series. Sedgwick had not been obliged to make any important changes in his Bala Section, but Murchison had already found it necessary to alter his arrangement, and to change the details of almost every subdivision.

In 1833 Murchison exhibited before the British Association some of his best sections through a district two years afterwards called Silurian. Sedgwick followed him with an

[1] *Proceedings* of the Geological Society, ii. pp. 13—18.

explanation of his sections across the great series of North Wales[1]. In the same year, Sedgwick read a paper to the Cambridge Philosophical Society (11 March, 1833), which we find reported as follows:

"Professor Sedgwick also gave an account, illustrated by drawings and sections, of the Geology of North Wales. He stated, that by various traverses across Caernarvonshire and Merionethshire, it was ascertained that the strata of that district are bent into saddles and troughs, of which the anticlinal and synclinal lines occur alternately, and are all nearly parallel to the 'great Merionethshire anticlinal line.' The direction of these lines is nearly N.E. by N. and S.W. by S., and they appear to pass through the following points: (1) Near Caernarvon; (2) Mynydd Mawr; (3) Carn Drws-y-coed; (4) Moel Hebog; (5) Moel Ddu; (6) Between Pontaberglaslyn and Criccieth; (7) The great Merioneth anticlinal; (8) The west side of the Berwyns; (9) The calcareous beds to the west of Llanarmon Fach. The bearing of these facts upon the general views of Elie de Beaumont was noticed; and it was observed that the approximate parallelism of the most prominent mountain chains of Wales, the Isle of Man, Cumberland, and the South of Scotland, corroborate the justice of his theory up to a certain point; although on a wider scale, these apparently parallel straight lines may be found to be portions of curves of small curvature[2]."

This shows very clearly that Sedgwick laid before the Society a section across very nearly the same line of country as that described above, p. 519.

Referring to these years, Murchison makes the following remarks:

"In the years 1833 and 1834 Professor Sedgwick published nothing, as far as I know, on the subject of Wales, whilst in that period I produced before the Geological Society several memoirs, detailed sections, many sheets of the Ordnance Survey coloured by myself in the field, and copious organic remains, by which, in February, 1833, a first general view was adopted of four fossiliferous formations, underlaid by a great mass of unfossiliferous Greywacke[3]."

In 1834, Sedgwick and Murchison went together to

[1] *Literary Gazette*, April 10, 1852, No. 1838, p. 338 et seq. *Report* of British Association, Cambridge, 1833, p. xxxiii.

[2] *Philosophical Magazine*, ii. 381.

[3] *Quarterly Journal* of the Geological Society, 1852, viii. 174. A partial correction of this statement appears in the *Errata*.

examine their respective fields of operation. Sedgwick was of course taken over the ground where the sequence was most clearly displayed in natural sections, and left with the impression that all Murchison's classification depended upon equally good evidence and accurate observation. For years he did not see any reason to doubt the statement that the Trilobite Flags of Llandeilo were correctly "placed above the great undulating slate rocks of South Wales," more especially as Murchison told him that he had recognised the equivalents of his Llandeilo Flags on the east flank of the Berwyns, and that Sedgwick's Bala Beds were no part of the Silurian System, but plunged under the true Llandeilo Flags. This, coupled with the difficulty of distinguishing by a superficial examination between the Wenlock Flags and Llandeilo Flags near Builth, led both for the nonce to rest content with the view that the Bala Beds were the top of Sedgwick's Cambrian, and the Llandeilo Flags the base of Murchison's Silurian.

For several years the question remained in much the same state; Murchison's Upper Silurian being made up of Ludlow and Wenlock, and his Lower Silurian of Caradoc and Llandeilo; Sedgwick not believing yet that Murchison's sections and grouping could be fundamentally wrong, and still trying to throw the rocks of North and South Wales into a sequence in which the palæontological and stratigraphical evidence could be brought into harmony, and with which every clear natural section would be consistent. Still Murchison found no definite base for his Llandeilo Flags. At Llandeilo, as we shall see, he had mistaken the order of succession, so that where he should have looked for a base-line, he was really at the top of the series. In other parts of the district there was a passage down from the Llandeilo Flags into Sedgwick's Arenig; and, in the absence of all evidence of a definite base-line, Murchison began to speak of the Silurian System as "but the upper portion of a succession of early deposits, which it may hereafter be found necessary

to describe under one comprehensive name[1]." Sedgwick, on his side, observed that the Caradoc, as defined by Murchison, contained in places nothing but Bala fossils, and said that if Salter could prove that "the Meifod Beds were Caradoc, the Bala Beds must also be Caradoc, or very nearly on its parallel[2]." But in other places the Caradoc, as defined by Murchison in *The Silurian System*, with its fossils as given in the plates of that valuable though often incorrect work, was above the Bala Beds, and hung on to the Wenlock.

Sedgwick was not contending for a nomenclature, but for a classification. He said in his paper of 1852: "I used the word Protozoic" (paying Murchison the compliment of accepting one of his own terms) "to prevent any wrangling about the words Cambrian and Silurian." The point was that Sedgwick had correctly described and determined the position of all the Bala Series as early as 1832, and that the section then put forward has never been changed, and the classification founded upon it is that which is now everywhere known to be correct. It was afterwards found that Murchison's Llandeilo, and portions of his Caradoc, were only local developments of part of the Bala Series described and named after Sedgwick had described and named the Bala Beds; and, moreover, that the Llandeilo and Caradoc were wrongly defined, and wrongly placed, and based upon wrongly drawn sections.

Sedgwick, with much that was only tentative, added some very important facts to our knowledge of the Cambrian and Silurian during the years 1835 to 1838. His Section has now become:

Silurian. *Flags of the Berwyns:* which he said were above his Bala Beds and referred to Murchison's Silurian.

Murchison believed that the Bala Beds plunged under these Silurian Flags, but wrongly identified them with the Trilobite Flags of Llandeilo.

[1] *Silurian System*, p. 11.

[2] *Quarterly Journal* of the Geological Society, viii. 153.

i. Upper Cambrian. *Shales of the Berwyns and Bala.* "Cleavage often observed...Beds of good roofing-slate occur, but other parts are of a coarse texture...They are based on beds of limestone and calcareous slate" [i.e. Bala Limestone] from which in his Syllabus of 1837 he records *Bellerophon bilobatus*, *Producta* (*Leptæna*) *sericea* and nine species of *Orthis*.

ii. Lower Cambrian. Some portions coarse and mechanical, some yielding fine roofing-slate, some containing irregularly interstratified masses of porphyry. Few organic remains and no continuous beds of limestone.

iii. Primary Stratified Groups. The altered rocks in Anglesey and S.W. Caernarvon.

In his paper of 1835[1] he had named these three divisions: i. Upper Cambrian, ii. Middle Cambrian, iii. Lower Cambrian, but altered the terminology as above in his paper read before the Geol. Soc. May 13, 1838[2].

Sedgwick now begins frequently to note that the Bala beds pass into coarse sandy deposits containing the same fossils as those found near Bala, at the same time that he was recording the superposition of the Caradoc Sandstone of Murchison to the whole of his Bala series. This is not explained till later, when we find from the fuller explanation and plates of fossils in *The Silurian System*, what it was that Murchison pointed out to him as Caradoc, viz. the Pentamerus Beds. Of course all the Bala Series was inferior to that and to its equivalent in the north, and to all the sandstones either in the south or north which pass up into the Wenlock Series. That this was the idea in Sedgwick's mind at this time is clear from his suggestion that if the relations of the Llandeilo and Caradoc were as represented by Murchison, and if they contained the fossils recorded by him, the Wenlock also had better be bracketed with them[3]. Thus, through the Caradoc, which seemed to be a local sandy equivalent of the Bala, and contained Bala fossils, and that other sandstone which formed the base of the Wenlock, there would be a passage from the Cambrian into the Silurian, *if it were true, as Murchison said he had proved by actual sections, that those two sandstones were*

[1] Brit. Assoc. Rept. Dublin, 1835, pp. 59—61.

[2] *Proceedings* of the Geological Society, Vol. ii. p. 679.

[3] *Quarterly Journal* of the Geological Society, ii. 130.

one and the same bed, and that both Orthis flabellulum and Pentamerus oblongus occurred in it.

If this was Murchison's Caradoc Sandstone, then it would be better to consider it as an extensive and variable deposit containing, as subordinate deposits, the Llandeilo Flagstone and other characteristic calcareous and shelly bands[1]. This would be a sufficient explanation why the top of his Cambrian was not everywhere overlaid by beds obviously of the character of the Llandeilo Flags. It seemed to him more probable that the Llandeilo Flags were a local development of the shaly portions of the Caradoc, than that Murchison should have got the order of superposition wrong in one of his important traverses, the Meifod and Welshpool Section, or even that he should have mistaken the identity of his Llandeilo flags in his own area, and confounded it with part of the Denbigh Flags. For here was a district which Murchison claimed as peculiarly within his sphere of influence; here were the important members of the groups of rocks the relations of which he claimed to have established over that area; and here he stated to Sedgwick, on the border lands of their two areas, I find the Llandeilo Flags which I have followed throughout my district pass over the Bala Beds of yours. Murchison was responsible for determining *those* to be Llandeilo; Sedgwick answered for the Bala age of *these*. If those were not Llandeilo, Murchison was wrong—if these were not Bala, Sedgwick was to blame. Well, it turned out—every body knows it now—that Murchison was wrong. His sections were wrong, and he had not here, any more than near Builth, distinguished between the Llandeilo Flags with *Ogygia Buchii* and the Wenlock Flags with *Cardiola interrupta*[2]. Murchison could not maintain his position, and allowed that his sections were wrong, but, in after years, he said that it was Sedgwick's fault. This annoyed Sedgwick more than anything that occurred during the whole of their long

[1] *Proceedings* of the Geological Society, Vol. iii. p. 549, 1841.

[2] See *Sil. Syst.*

controversy. If Sedgwick was responsible for the mistakes in the sections across that country, why does Murchison claim it as his ground? It was either Murchison's or Sedgwick's ground, and whoever has the credit for what is right in it must bear the blame for the mistakes in the Sections through it. It can be ascertained at once, by reference to Murchison's map[1], that he claimed the district in question, and took credit for all that was correct in it, but wished to throw the blame of his great mistakes upon Sedgwick—and it was not till the Meeting of the British Association at Cheltenham in 1856 that Murchison admitted that he himself was alone responsible for the great errors in the superposition of the strata of that area[2].

When *The Silurian System* was being prepared for press, Murchison seems to have submitted some of the proofs to Sedgwick, and we find, not only that there was some difference of opinion, but that Murchison was already beginning to encroach on his friend's work; and, although Murchison did make certain alterations in compliance with Sedgwick's request, the "very painful misunderstanding," as Sedgwick calls it, "left on his mind a feeling not of anger but of sorrow, mingled with a most wretched and miserable condition of surprise, uncertainty and suspicion...and," said he, "I persist most positively and unequivocally in refusing to look over any single page of your work till it is before the public[3]."

In 1843[4] Sedgwick published an expansion of his views on the North Wales sections, giving many further details and subdivisions.

a. Slates west of Arenig, containing *Asaphus Buchii* (*O. scutatrix?*).

b. Porphyries of Arenig.

[1] See Map published with *The Silurian System*.

[2] See above, Vol. ii. p. 324.

[3] Sedgwick to Murchison, March 27 and 29, 1838.

[4] *Proceedings* of the Geological Society, iv. 251. *Quarterly Journal* of the Geological Society, i. 5.

c. Dark earthy slates, containing *Asaphus Powisii*, *Trinucleus Caractaci*, *Leptæna sericea*, Encrinital Stems.

d. Grey slate, containing *Asterias*, *Orthis flabellulum*, Encrinital Stems.

d'. Very fossiliferous band, supposed to be the equivalent of the Rhiwlas Limestone.

d''. Grey slate with fossils.

e. Hard quartzose slates.
Here his section indicates a sharp fold and fault, so that $f=d$, $g=d'$.

f. Hard grey slates about the horizon of (*d*).

g. Bala Limestone, with *Orthis Actoniæ*, *O. Vespertilio*, *Leptæna tenuistriata*, *Asaphus Powisii*, *A. tyrannus*? *Favosites*, *Chætetes petropolitana*, *Ophiura Salteri*, about the horizon of *d'*.

h. Alternations of tough sandstones and variable slate.

i. Hirnant Limestone—a pisolitic limestone with fossils like those of Cyrnybrain.

We have in this paper the fossiliferous beds (*a*) in Cwm Elen, near the base of the Arenig, clearly indicated; the Arenig volcanic series (*b*); the Lower Bala (*c*) and (*d*); the Bala Limestone stage (*d'*) and (*g*); the Upper Bala (*d''*) and (*h*); the Hirnant Limestone (*i*). Those familiar with this remarkable bed will recognise in the "new and very flat species of *Orthis*" the form afterwards described as *O. hirnantensis*, and also appreciate the note that some of the fossils of this bed resemble the new species found at Crynybrain, Cernioge, and elsewhere along the lower boundary of the Denbigh Flags and Grits. These Cyrnybrain beds are in turn connected palæontologically with the conglomerate, sandstone, and limestone near Mathyrafal, which he refers to "a higher fossiliferous group than any which has yet been described" in his paper. We can without much difficulty recognise the fossils he mentions as occurring in these beds, though most of them are now known by different names: viz. *Turbinolopsis* (*Petraia*) *bina*, *Favosites polymorpha* (probably = *F. fibrosa*), *F. alveolaris*, *Cyathophyllum*, *Terebratula marginalis* (*Atrypa reticularis*), *Leptæna du-*

plicata (= *L. transversalis*), *Atrypa* (*Pentamerus*) *undata*, and *globosa*, *Orthis lata* (or *protensa*). This is a characteristic May Hill group of fossils, but there follows the curious remark that these were "shells which have been considered as characteristic of the Llandeilo Flags."

On turning to *The Silurian System* to see whether there is any such group of fossils recorded there as occurring in the Llandeilo series we find (Pl. xxii.) among the fossils of the Llandeilo Flags: Fig. 2, *Leptæna duplicata*. Fig. 2 *b*, *Atrypa globosa*. Fig. 10, *Orthis lata*; while *Petraia* (*Turbinolopsis*) *bina* is given as Caradoc as well as Wenlock (Pl. 16 *bis*. Fig. 6).

Thus it is perfectly clear that Murchison had got some May Hill sandstone beds confounded with the Llandeilo in the typical district of Llandeilo, whereas the equivalent of these had been already distinguished by Sedgwick in North Wales as "a higher fossiliferous group." We see how it might well be that where fossils were not very abundant, and many of those found were identical with forms described and figured by Murchison as characteristic of his Caradoc, and even of his Llandeilo, Sedgwick might still allow the possibility of the Llandeilo and Caradoc being superior to his Bala Series as stated by Murchison; seeing that the highest fossiliferous zones he found above the Bala and below the Denbigh Flags contained such a large number of fossils wrongly recorded by Murchison as occurring in his Llandeilo and Caradoc.

In 1846[1] great advances were made in the elaboration of the Cambrian and Silurian Rocks, but we still claim for Sedgwick that in every important addition he was first. He attacked the difficult and almost unexplored masses that roll over through Central Wales from the Towy to the western sea, following the very lines along which he had made hasty traverses through this country in 1832.

Sir Henry De la Beche let him see an unpublished section

[1] *Quarterly Journal* of the Geological Society, Vol. 3, 1847, p. 151.

by Ramsay, but the subdivisions which Sedgwick introduced were not attempted by the Survey. All the work of the Survey and of the few independent observers who have been drawn into that obscure and almost unfossiliferous region has done nothing but confirm the shrewdness of his generalization, and the correctness of his classification. He divided the rocks observed into four principal groups. The first division we must look upon as of geographical rather than geological significance, as (B), (C), and (D) may turn out to be developments of (A_2), (A_3), (A_4), being remote, and put in merely for purposes of correlation. To make Sedgwick's meaning clear, we must drop the terms borrowed from *The Silurian System*, and state what Sedgwick records as the sections taken in descending order:

A. Cambro-Silurian Group.

1. Flags which pass by insensible gradations into Wenlock Shale.
2. Sandstones of Noeth Grug.
3. Flags.
4. Conglomerates and slates.

B. Rhaydr Slates.

Pale leaden or greenish grey slates.

C. Plinlimmon Group.

This "might be divided into two or three sub-groups." It includes "the highly metalliferous rocks of Goginan, Cwm Ystwith &c.;" "the grits and Slates...of Plynlimmon;" and the grits and flags which extend thence to Llangurig.

D. Aberystwith Group.

Alternations of hard close-grained gritstone and indurated shale and flagstone, with innumerable fucoids, &c.

Sedgwick really did almost as much as Murchison towards working out the Silurian proper, that is the Upper Silurian of the Survey.

The determination of the true place and sequence of the Silurian rocks of Central Wales, following, as it did his early researches among the Denbigh grits and flags, and his

still earlier classification of the Silurian rocks of the Lake District, as well as the help he gave to Murchison, whose early efforts among the Silurian Rocks were, as we have shown above, p. 524, not very happy, should undoubtedly have met with ampler recognition, and probably would, had not this great achievement been thrown somewhat into the shade by his work among the complicated mountain-regions of North Wales, and the controversy that arose out of it.

In wild, sparsely populated districts, it is often difficult to refer a section or a fossil zone to the name of a place on the map, so that the locality can be readily identified by a person who is not familiar with the region. On some ordnance-maps, and, still more, on the old maps which Sedgwick had to depend upon, there are often large spaces devoid of names; and, when a Welsh name is given, it may extend over several miles of country. Thus it comes to pass that the nearest village is set down as a locality, though it may be at a considerable distance from the spot which it is desired to indicate. The village of Tremadoc, for instance, includes localities far up the valley to the west, or on the hills to the north and south. We must remember this in reading Sedgwick's papers. When, for instance, he says: "I found the Tremadoc *Lingulæ* and fucoids in great abundance," he does not mean that those fossils were in what we now call the Tremadoc Series, but only that they were recorded from the neighbourhood of Tremadoc.

We will, for clearness' sake, pick out from his scattered descriptions of sections, and exhibit in tabular form and descending order, the subdivisions which he had now (1846) made out among the Cambrian Rocks.

1. Cleaved beds, containing *Trinucleus Caractaci, Murchisonia scalaris, Leptæna sericea, Orthis opercularis.*

2. Slates, flags, and trappean shales, interrupted by terraces of greenstone. This series contains *Homalonotus bisulcatus*, and is considered by Sedgwick to be the "equivalent of some of the fossil bands east of Great Arenig." At pp. 138, 149, fuller lists of fossils are given, proving these beds to be of Bala age.

3. Black slates with fucoids, trilobites, and graptolites (*Graptolithus foliaceus, G. Murchisoni, Asaphus Powisii*). This series "contains large masses of pisolitic iron ore," and is "mineralogically like the dark slates on the shore of the Menai Straits."

4. Lingula beds, containing "many specimens of a large *Lingula*, first described by Mr Davis." These are elsewhere (p. 146) mentioned under the name "Festiniog flags (*Lingula* Beds)[1]."

5. Quartz pebbly conglomerates, which, "near Harlech, are composed of very coarse grits" (p. 145).

6. "Zone of crystalline hypozoic slates" (p. 148), which, he says, are the equivalents of the slates and altered rocks of the centre of the axis along the Merioneth anticlinal near Trawsfynydd.

Murchison does not appear to have contributed much about this time towards working out the details of any rocks older than the Llandeilo Flags. To the paper by Sedgwick which we last quoted he wrote a reply[2], in which he points out that twelve years before he had described the Silurian Rocks, dividing them into two groups: the Upper consisting of the Ludlow and Wenlock; the lower of the Caradoc and Llandeilo formations; and had given the chief or typical fossils of each. Well, so he had; but those groups were wrong; and, had they been right, Sedgwick had correctly described the Bala Beds, which included the Llandeilo and all that has been left in the Caradoc, before Murchison had subdivided their equivalents in South Wales and on the borders of Wales and England. We regret that circumstances render it necessary to point out how far wrong Murchison's sketches were, rather than how near the truth they were in those early stages of progress; but we are dealing with a question of who is to have the credit of being right on certain definite points at that time, and so it must be done. The Caradoc, as we have shown by our account of Sedgwick's work a few years later[3], was not a separate formation or group, but made up of various beds of very different age, and this

[1] At a later period the Tremadoc Beds were cut off from the top, and the Menevian Beds from the bottom, of this Series (4).

[2] *Quarterly Journal* of the Geological Society, iii. 1847, p. 165.

[3] In 1852. See above, Vol. ii., pp. 279—285.

mistake was not cleared up by the time *The Silurian System* was published. "Let these species be found," says Murchison[1], "in any part of the world, and I ask if their discoverer can possibly assign to them any other geological name than Lower Silurian fossils." But, referring to Murchison's plates of Caradoc, or even of Llandeilo, fossils in *The Silurian System*, we think no one would refer a rock with *Pentamerus oblongus*, *Buccinum* (*Macrocheilus*) *fusiformis*, *Atrypa hemispherica*, and *Atrypa* (*Meristella*) *crassa* to Caradoc; or a rock with *Orthis protensa* (or *lata*), *Spirifer* (*Pentamerus*) *liratus*, and *Atrypa* (*Pentamerus*) *globosa* (Plate xxii); *Atrypa* (*Pentamerus*) *undata*, *Atrypa* (*Stricklandinia*) *lens* &c. &c. (Plates xix., xx., xxi.) to Llandeilo. To make it quite clear what he understood by the Silurian, Murchison reprinted the woodcut used 12 years before, in which the Llandeilo Flags are drawn resting on the upturned edges of the Cambrian or Slaty Greywacke, as it was then called. We confidently assert that there is no such section in Wales.

Murchison apprehends that "the broken and porphyritic region of North Wales, Westmoreland, and Cumberland might long have remained undeciphered if it had not been for the constant appeals which the geologists who have explored those tracts have made to the established Silurian strata" (p. 171). The relation of the rocks in the porphyritic region of the Lakes was nearly as well known in 1828 as it is at the present day, and certainly Murchison had thrown very little light upon it, while by his mistakes as to the relative position of certain fossiliferous beds in South Wales he had rendered correlation with the correct sections of the North impossible for years. Only a few years later we see how the progress of geological classification was impeded by this reference of fossils to wrong horizons. Sedgwick writes, "I had never seen the *Cardiolæ* but among rocks supposed to be Upper Silurian." On the next page he quotes a letter from Salter, in which he says, "*Cardiola* occurs in Llandeilo

[1] *Quarterly Journal* of the Geological Society, iii., 173.

Flags at Builth;" that is, the *Cardiola interrupta* of the Upper, or Wenlock Flags, which had been confounded with the Lower, or Bala Flags, by Murchison. This same mistake was reproduced in later times by Barrande. Murchison trusts that geologists will not forget the toil by which his results were obtained (p. 171), but says nothing of the toil which Sedgwick underwent among the far more difficult and dangerous mountain-wilds of North Wales, and the Lake District. He pathetically appeals to geologists not to allow "the meaning of the term (Silurian) to be changed and restricted to the upper half of the original system," by pointing out "the small area in various countries to which the Silurian System would be reduced" by that process (p. 178), but in the same paper he says that it is not for him to determine whether the Cambrian may not be so reduced; "whether," in fact, "geologists will use the word 'Cambrian' in reference to still older and often unconformable Greywacke lying beneath all the beds with Silurian fossils." This appeal *ad misericordiam* reads queerly after we have learnt how he afterwards quietly absorbed everything down to the base of the Lingula Flags, in order to cover his retreat from the erroneous base-line he had drawn at the bottom of the Llandeilo Flags. He dwells on the supposed fact that "there is no general break between the masses occupied by Upper and Lower Silurian fossils in Wales;" on "the great interchange of fossils between the Upper and Lower Silurian Groups," sufficient "to convince every one that they are so knit together in Britain as to be geologically inseparable" (p. 175). But this is in consequence of his having mixed up the fossils of two totally distinct horizons. He concludes as follows: "I maintain that the Lower Silurian cannot be viewed as a system independent of the Upper" (p. 176). When it was found that the Llandeilo and Caradoc, after cutting off the May Hill rocks which had been mixed up with them, were only local subdivisions of the southern equivalents of Sedgwick's Bala, the statement was cleverly turned, and it was said that Sedgwick's Bala was

nothing but Lower Silurian; but, as we have shown, Sedgwick had established the Bala sequence *correctly* long before Murchison had put forth even his incorrect version. Sedgwick points out that if Murchison's contention be maintained, namely, that the term Silurian is to be applied as far down as fossils of the same general *facies* can be found in the Older Rocks, then the true definition of Silurian becomes only 'fossiliferous Greywacke.' The force of this observation seems to have made considerable impression upon Murchison.

Sedgwick had re-examined in 1851 the May Hill and Horderley districts and made out some good points: firstly, that there were shales with *Ampyx* and *Trinucleus* overlying the beds called Caradoc Sandstone in the Horderley area; and, secondly, that there were sandstones on May Hill, which were also referred to the Caradoc Series, and that these "rise immediately from beneath the undoubted Wenlock group," and contain fossils entirely different from those of the Caradoc of Horderley, but similar to those of the over-lying Wenlock, while the common or characteristic Bala forms were absent.

Here also, in the next great advance made in the classification of the Silurian and Cambrian rocks, Sedgwick is again first; and now we find that he has cleared up the greatest difficulty in the way of the correlation of the rocks of North and South Wales. He again appeals to the common sense and justice of the public to look into this question and consider who had first established the correct classification of the Upper Cambrian Rocks.

In his paper of 1852[1], having filled in more of the details, Sedgwick gives the following as the ascending sections in North Wales:

1. "The metamorphic rocks as a kind of hypothetical base."

2. "The lowest groups of the whole [Cambrian] Series may... be seen on...the great Merioneth anticlinal [see above p. 536] and also

[1] *Quarterly Journal* of the Geological Society, viii. 144 et seq.

among the red-coloured slates which rise from below the great quarries of Nant Francon and Llanberis."

3. "Llanberis slates."

4. "Harlech grits."

5. "Lingula flags."

6. "Tremadoc slates."

7. "Arenig slates and Porphyry."

8. "Lower Bala, consisting of dark slates, flags, and grits."

9. "Upper Bala, including Bala and Hirnant limestones, shale, flagstone, and conglomerate."

10. "Over the group last noticed is a series of beds of considerable thickness, made up of arenaceous flags and grits, sometimes of coarse structure. It occupies a trough, on the east side of which the Bala Limestone is repeated over again."

With regard to this section he further remarks: "this arenaceous deposit (10) was the highest member of my original Cambrian Series, and I need not inform the Society that it is now identified, in the Government Survey, with the Caradoc Sandstone....We now know, through the noble map published under the direction of Sir H. De la Beche, that the highest group of the great ascending section is the equivalent of the Caradoc Sandstone of *The Silurian System*. Hence this group, as interpreted by the Government Surveyors, would be common to the Cambrian and Silurian rocks, described by Sir R. I. Murchison and myself,—the highest Cambrian group of my section being coincident with what they regard as the true Caradoc Sandstone; and it is this supposed overlap which introduces the only real ambiguity in the development and nomenclature of the lower palæozoic rocks of North Wales. To make this more clear, I may state that the Caradoc Sandstone of the well-known Horderley Section contains numerous fossils of the Bala Group, and none of the characteristic Wenlock species; while the so-called Caradoc Sandstone of May Hill contains the Wenlock fossils in abundance, and none of the characteristic Cambrian types. But is there a single section in which these two distinct groups of fossils appear together in one stage? If no such section can

be found, why may we not suppose that the Caradoc Sandstone of May Hill is a group superior to the Caradoc Sandstone of Horderley? Should we ever be able to answer this question in the affirmative, the ambiguity alluded to in the text would be at an end. The statement here given is drawn from the fossil evidence supplied by the Cambridge Museum." The force of this last remark is obvious when we search in *The Silurian System* for the fossil evidence upon which we should recognise the Caradoc Sandstone, and find that it is said to be characterised by both *Orthis flabellulum* and *Pentamerus oblongus*, by *Trinucleus Caractaci* [*concentricus*] and *Atrypa* [*meristella*] *crassa*—fossils which nowhere occur in the same bed.

Sedgwick prepared an abstract of the paper from which we have been quoting; but the Secretary of the Geological Society had already drawn up one on his own account, which was published in *The Athenæum*. Subsequently, Sedgwick's own was published in *The Literary Gazette*. This gave rise to a correspondence in which Murchison and Sedgwick stated very fully and clearly the positions they severally took up.

Sedgwick said: "The whole argument of Sir Roderick Murchison is based on a general ideal section, which gives *his* conception of the relations of the Silurian System to the other rocks with which it comes in contact. This section the author affirms to be not merely imperfect but erroneous in its assumed base, and also wrong in its interpretation of the second of its actual groups. Hence he affirms that the whole argument built upon it comes to the ground. And he further affirms, that in no part of the Silurian System have the true relations of the Llandeilo Flags been made out, either to the beds above them or below them[1]."

Had Murchison been right on these points, Sedgwick must still be allowed priority in virtue of his early Sections of 1831—1834; but, seeing that Murchison was wrong up to

[1] *Literary Gazette*, 6 March 1852, p. 234.

this date and much later, Sedgwick's position becomes unassailable.

Murchison's answer to this was, as he says, "the substance of the reply which I made *viva voce* at the rooms of the Geological Society to the points advanced by my old friend who has become my antagonist....On my part I contend that geologists must adhere to my nomenclature, founded on data which I have proved to be true—a nomenclature which has been generally adopted at home and abroad." No reference is here made to sections to prove that his classification was right; in fact he begins his reply by saying that it is "divested of numerous local names;" whereas what was wanted was the local name and the place where a section could be seen such as he had published. The best proof that his classification was wrong was that very soon after this reply he gave it up himself. He rightly dwells on the word nomenclature, for he wants to retain his nomenclature whatever might happen to his classification. He then goes on to show that the officers of the Survey had found that his Llandeilo was only part of the Bala of North Wales; but he turns the statement the other way and says that the Bala Series was shown to be only part of his Lower Silurian. Then we see the old difficulty about the Caradoc Sandstone cropping up as usual. The Caradoc of Sedgwick was the May Hill sandstone with the *Pentamerus* fauna—the equivalent of the sandstones at the base of the Denbigh flags and grits—the Meifod beds having by this time been relegated to the Bala Series. But the Caradoc of Murchison included also the Horderley beds with Bala fossils. When Murchison spoke of Caradoc he was thinking more of the Sandstones of Horderley, and the sandy beds associated with the upper part of the Llandeilo Flags. Hence he asks, in reply to a remark of Sedgwick's, that the Caradoc would have made a better base for his Silurian: "How then is the geologist to draw any line of separation through the middle of a group the members of which are thus naturally united? How call one part of it

Silurian and another Cambrian? How indeed break up a natural system of life in which a great number of fossils are found to be common to its upper and lower divisions?" This question was soon after answered by Sedgwick, when he showed that the supposed community of fossils was owing to Murchison having mixed up the fossils of two entirely distinct formations. Further on Murchison adds: "how clearly do we read in the book of nature opened out in the north of Continental Europe that Silurian fossils constitute the earliest recognisable creation;" and appeals to Barrande in Bohemia, and Hall and others in America, in confirmation. This has not much meaning now when we remember that his Lower Silurian consisted of Caradoc Sandstone and Llandeilo Flags, whereas Barrande's Primordial Fauna is entirely below anything called Llandeilo, and the American and Scandinavian geologists have carried down their fossil life as far as the base of Sedgwick's Cambrian. We need not, however, refer more to this; Murchison himself soon gave up such an untenable position; but, instead of allowing that his Llandeilo was only a local development of part of Sedgwick's Bala, took into his Lower Silurian bed after bed of Sedgwick's Cambrian down to the base of the Lingula Flags; and Ramsay, with consistency, if with nothing else, took in also the Harlech Series. What further acknowledgment could be desired "that his system was base and his base had no bottom!"

Murchison says: "it is now useless to refer back to the inaccurate portion of a line of boundary on my old map which is little more than a demarcation between my own hunting-grounds and those of my friend." That is to say, he asks us not to examine the maps and sections of the Llandeilo district in order to see how he really did define the Llandeilo Flags. We cannot gather, from the above letter, any arguments in favour of Murchison's view except the one he never loses sight of, viz. "If I give up the Llandeilo, and part of the Caradoc, what will be left of my Silurian?"

Murchison, with very questionable taste, to use no harsher

expression, finished the letter from which we have been quoting with an extract from a squib[1] written by Edward Forbes after the discussion at the Geological Society (25 February, 1852). There is no doubt that Sedgwick was angry at this avoidance of the real question at issue, viz. who had first got the Bala Series correctly defined?—that he was annoyed at the squib, and hurt by the general sneering tone assumed. The insinuation "that I am trying 'to stifle my friend to serve my own selfish purpose' is," he said, "unjust to myself and unworthy of his pen;" and the claim that Murchison deserved more consideration than he did on the ground of long and arduous toil calls from him the following appeal: "I have for thirty-four years kept my neck pretty steadily in the geological collar, without ever having known a task-master, and for nearly thirty years I have devoted no small labour to the older palæozoic series, especially in the British Isles. For every year which the author of the squib may have toiled among these rocks, I believe that I have toiled ten; and whatever may be thought of the results of my labours, be it great, or small, or nothing, this at least I do affirm, that I have stood in the way of no man, and that I have ever done my best to stifle any spirit of premature generalisation that might rise within myself, lest it might minister to my personal vanity rather than to the lasting cause of truth. Hence I have never been over-anxious to give names to ancient groups of strata; and where I have used such technical names, I have willingly changed them when the occasion seemed to call for it; and by these very changes, made in deference to others, have I more than once been led into great errors of nomenclature....So far as regards the great Welsh Series, I venture to affirm that, from first to last, my Cambrian sections were *right in principle;* and that I never misinterpreted my upper groups except when I endeavoured, hypothetically, to adapt them to the Lower

[1] Printed above, p. 255, *note.*

Silurian Groups, which, in the end, were proved to be *wrong in principle.* When this was at length made out, it would have been an act of downright folly and moral cowardice not to adhere to my original classification of the great Welsh Series."

In the next place, he offers a very temperate and clear statement of the facts of the case: "We began our labours independently in the summer of 1831. In July, 1832, I exhibited before the British Association a section through the undulating system of Caernarvonshire, with the exception of a single doubtful group near the Menai. I then determined the true succession of the several subordinate groups of my section, and I have never changed it since. During the same summer I completed one or two parallel sections, from the Menai to the edge of Shropshire, which determined, I believe correctly, the general relations of the whole Cambrian Series of Caernarvonshire, Merionethshire, and Denbighshire. In the autumn of the same year I made two or three rapid traverses through South Wales, which, however imperfect as to details, enabled me to determine with absolute certainty that all, or nearly all, the eastern portions of the great undulating system of South Wales lying to the east of Cardigan Bay was superior to the Bala Limestone.

"In 1833, my friend exhibited before the British Association some of his best sections through a district two years afterwards called Silurian. I followed him with an explanation of my sections, above noticed, across the great series of North Wales. What was then the state of our knowledge, and how far were we agreed? At that time the overlying flagstones in the north of Denbighshire offered no difficulty. They were the undoubted equivalents of the overlying flagstones near Welshpool, afterwards called Upper Silurian. Neither at that time did the coarse sandstones and conglomerates at the base of the Denbigh Flags offer any difficulty of interpretation. They appeared to represent,

very naturally, the shelly sandstones etc. (afterwards called Caradoc [with *Pentamerus oblongus*, etc.]), of the sections exhibited by my friend. But there *was* a difficulty in the interpretation of my groups on the east side of the Berwyns. Left to my own sections I should, without hesitation, have placed these groups nearly on the parallel of the calcareous slates east of Bala, and called them a part of my Upper Cambrian Series; but this conclusion seemed to clash with my friend's interpretation of the place of some shelly sandstones (Caradoc) near Welshpool."

The kind of explanation that had to be sought was something like that which he suggested in a sketch which he drew for Murchison, and which was published in *The Silurian System* (Plate XXXII., Fig. 9). That, however, was not the result of Sedgwick's field-work, but only a manipulation of Murchison's work, which Sedgwick tried to help him to clear up. This is obvious, as the section is full of details carried far beyond the Berwyns, across nearly the whole of Murchison's ground. But Sedgwick always maintained that his sections across the Berwyns did not favour Murchison's view of the structure of the adjoining area; and no such section as that given, on Sedgwick's authority, in *The Silurian System*, appears anywhere in Sedgwick's own publications.

"Hence," added Sedgwick, "I concluded by asserting 'that there must be an overlap of our sections on the east side of the Berwyns, which could only be explained by a joint interpretation made by us in the field.' I have noticed the previous facts, in historical order, mainly for the purpose of laying down a *principle of common sense and common justice*, namely, that if (in the region where the overlap took place) I had blundered in my sections, and mistaken the relations of my upper groups, I was bound to expunge them from my Cambrian series, and give them up to my friend. On the other hand, if he had misinterpreted the relations of his lower groups (Llandeilo

Flags etc.), while I had given their equivalents a right place in my Cambrian Sections, he was bound, by the same principle, to give up those lower groups to me....My friend tells me 'that geologists must adhere to his nomenclature founded on data *which have proved to be true.*' I reply, that my position in this controversy is defensive, and not offensive; that I maintain the nomenclature first agreed upon; and that my friend's nomenclature cannot be now adopted, simply because the data on which it was constructed *have, out of all question, proved to be untrue.*"

Sedgwick then goes on to explain this position by reference to Murchison's map and sections, but we need not dwell upon it, as the Survey have proved the error of these sections, and Murchison himself adopted their correction. While, however, he admits that his principal sections were wrong, Murchison has no idea of giving that part of his system up to Sedgwick, but rather intimates that it may be necessary for him to take in the whole of the Series below the Bala Beds—about which there had hitherto been no question—and call them also Lower Silurian. Sedgwick protests against the erroneous statement that "the older Cambrian groups are *made up of the same strata, and contain the same organic remains, as the Lower Silurian Rocks*," by which this proposal was justified; and maintains that his opponent might descend more than 20,000 feet "lower than any rocks he has reached in any true section before he reaches the lowest limit of organic life as seen among the older groups of Wales."

Murchison had appealed over and over again to the proofs which he had gathered abroad of the correctness of his classification, and to the acceptance of his views by foreign geologists. To this Sedgwick replies: "I cannot follow my friend in his excursions to distant lands. The question between us is a question only of the classification of British Rocks, and must be decided only on British evidence. If he, in a rash zeal for a premature nomenclature, had been misled himself, or misled others, in giving wrong

names and wrong British equivalents to distant regions, such mistakes belong not to the fundamental questions discussed in this reply." "The only questions admissible in the debate are," he adds, "those which have a bearing on the truth of the sections, the natural succession of the groups, and the geographical propriety of the collective names when applied to British rocks....though I have not the shadow of a doubt that my own scheme of classification will bring the older British Palæozoic groups into far better coordination with the magnificent Palæozoic Series of America than they have ever been brought before." This view of his is fully accepted by Professor Henry Rogers, who, after reading his paper dated 25 February, 1852, wrote the letter we have quoted above[1].

Murchison of course replied[2]: "It is beside the question now at issue to revert to what we respectively did in the field in 1831 and 1832, or to appeal to what he [Sedgwick] communicated verbally in the latter year respecting a part of North Wales, the only printed record of which is comprised in about twenty lines of the first volume of the *Transactions* of the British Association." When the question was one of priority it is not very clear to us, looking back, why it was considered beside the question to revert to the earliest work done by each in the districts referred to; we should have thought that an enquiry as to which of them had got the Bala Beds or their equivalents right in 1832 might have been considered not quite foreign to the question. In fact the idea does seem to have crossed his mind, when in the next paragraph he speaks of his own work, for he says: "The first methodical and digested view of a sedimentary succession beneath the known and fixed horizon of the Old Red Sandstone was presented by myself to the Geological Society in 1834, as the results of memoirs of 1831, 1832, and 1833." We have seen how much he had made out in 1831

[1] See above, Vol. ii. p. 284.

[2] *Literary Gazette*, 24 April, 1852, p. 369.

and 1832[1]. Murchison was present in 1831 and 1832, when Sedgwick explained his views and exhibited sections in illustration of them, and he had by him all this time the section and explanation which Sedgwick sent him in a letter in 1832.

We have given above a *resumé* of Murchison's work on the Welsh rocks as well as Sedgwick's during these years in order that our readers may form their own opinion as to which of the two was the first to publish *any description* of the Bala Series. We followed that up by the enquiry as to which was right in after years, when both had published descriptions of the same series, and their views could not be brought into harmony.

Murchison then goes on to say that "in 1836 the word Cambrian was first used, Professor Sedgwick affirming that the slaty rocks which he so termed, and which lay to the west of the Silurian region, were all of them inferior to the strata of my system." They were inferior to the Caradoc with *Pentamerus oblongus;* to the Llandeilo with *Cardiola interrupta;* to the rocks pointed out by Murchison as overlying the Bala Beds east of the Berwyns; to the rocks shown on Murchison's map issued two years afterwards as resting on the Cambrian along the whole border-land, *except* where Murchison had mistaken the section, and within his own area inverted the order or mistaken the identity and grouped together series that were palæontologically and stratigraphically quite distinct. Then follow some personal explanations, all of which we are endeavouring to avoid when they do not bear directly on the question *who first published a correct description of the Bala Series.*

Further on Murchison quotes from his Presidential Address of 1842: "The base of the palæozoic deposits, as founded on the distribution of organic remains, may be considered fairly established; for *the Lower Silurian is thus shown by Professor Sedgwick himself* (I was then speaking of a recent memoir of his own) to be the oldest which can be detected in North

[1] See above, p. 518.

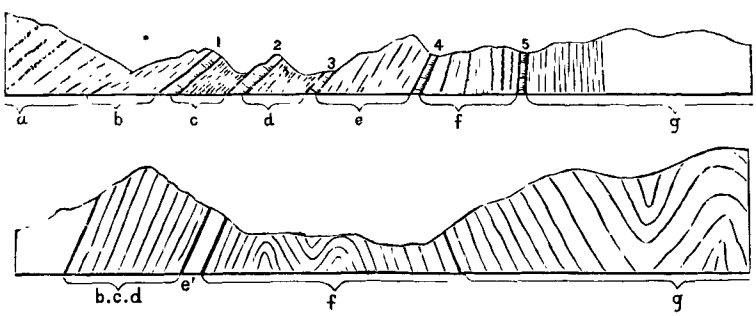
Wales....As Professor Sedgwick made no opposition to this induction of the author of *The Silurian System*, nor to another ample illustration of it in 1843, nothing, it seemed to me, remained to be done in British Palæozoic classification, except that the government geologists, who were preparing detailed maps and sections of Wales, should decide whether there were, or were not, fossiliferous strata occupying a lower position than any which had been formerly described as Lower Silurian. Their reply, in a stratigraphical and physical sense, is what I affirmed in my last letter." The substance of their reply was, he tells us, "that the strata containing fossils, which lie between the Berwyns and Snowdon (the Cambrian of Sedgwick), are the same as those I had drawn in sections, and described in words, in *The Silurian System*." That is no reply to the question whether there were or were not fossiliferous strata occupying a lower position than any which had been formerly described as Lower Silurian. The Geological Survey found the Harlech Series, the Lingula Series, the Tremadoc Series, and even the Arenig Series, below Murchison's Llandeilo Flags and Caradoc; and found them correctly sketched out across the country, and placed in their true order, by Sedgwick.

Murchison's contention was unwise when it was urged, but is quite untenable now that the zones of *Olenus*, *Paradoxides*, and *Olenellus*, have been discovered. The unsoundness of this reasoning is obvious to those who are aware of the existence of thousands of feet of rock in which no trace of organic life has ever been found, which yet lie above well-known fossiliferous horizons. And, when considering the value of that kind of negative evidence, we must further remember that the fossils of the Lower Cambrian escaped the notice of the Survey, and were only brought to light by Salter and Hicks years after the Survey had finished and left the district.

Let us next enquire what the Survey found it necessary to do when they examined Murchison's sections in South Wales.

They found it necessary to invert the order of the strata and turn the Llandeilo Flags the other way up in Murchison's typical section at Llandeilo; to cut off from them the flags with *Cardiola interrupta* &c.; to break up his Caradoc Sandstone and put some of it in the Upper, and some of it in the Lower, Silurian; and to prove that the whole of the Lower Silurian Strata were only portions of Sedgwick's Bala Series, the relative position, classification, and palæontology of which Murchison had entirely mistaken in his own district.

We reproduce two diagrams which Sedgwick used in 1846, when explaining the relation of Murchison's Llandeilo Flags to the Upper Cambrian. The first shows Murchison's Section across the Towy Valley at Llandeilo as given on the Map published with *The Silurian System*. In this he makes the Llandeilo Flags overlie the rocks to the west, which he calls Cambrian. The second gives the same section, as altered by the Survey, without changing the nomenclature. The great



a. Old Red. *b c d*. Ludlow and Wenlock. *e'*. May Hill Sandstone. *e*. Caradoc Sandstone with a subordinate Limestone. *f*. Llandeilo Flags. *g*. Cambrian.

undulating masses, under which the Llandeilo is now shown to plunge, are left as Cambrian. They consist in reality of higher portions of the Bala (or Caradoc in part), rolled over the anticlinal of Llandeilo Flags, and holding in their synclinal folds further west masses of Lower May Hill Sandstone.

Well might Murchison wish that the enquiry should be

"divested of numerous local names," and that we "should not revert to what" Sedgwick and Murchison "respectively did in the field in 1831 and 1832." Further on, however, he takes up a more positive position, and says: "I have laid it down that these subdivisions [the Llandeilo Flag and Caradoc Sandstone] are characterised by many of the same fossils. The researches of late years have, indeed, confirmed the unity of the Silurian System, by shewing *that many of the same species of fossils pervade the whole series of its lower and upper rocks.* It is this fact which prevents the possibility of a change of nomenclature, and the application of two unconnected names to *one system of life.* In short, the proposed amputation of the lower half of the Silurian System would, in my opinion, be a violation of nature." That is to say, Murchison still persisted in maintaining that the Upper and Lower Silurian were more closely connected together palæontologically than the Llandeilo Flags with the rocks below—a view that the warmest of his supporters would hardly now defend. But, when the beds erroneously massed together by him had been distinguished, and when, by the separation of the May Hill or Pentamerus Sandstone from the rest of the so-called Caradoc, the break between his upper and lower Silurian had become accentuated, what did he say? and when the passage down from the Llandeilo Flags, which Sedgwick had asserted, had been proved to be true by the labours of the Geological Survey, what did he do? He simply cut the knot by taking into his Silurian nearly all the rest of Sedgwick's Cambrian; but the false principle—that all these old fossiliferous rocks were to be Silurian, and the underlying supposed unfossiliferous rocks were to be Cambrian—landed him in a difficulty similar to that from which he was trying to escape, and left his system still without a base.

To this second letter Sedgwick of course replied[1], but we have endeavoured to incorporate his arguments elsewhere,

[1] *Literary Gazette*, May 15, 1852, p. 417.

when dealing with the working out of the facts on which they were founded.

Sore as Sedgwick felt at the unworthy sneers of Forbes' squibs, and the approval of them implied in Murchison's printing one of them, he rebounded at once to any expression of goodwill, and when Murchison concluded his second letter with words of kindness: "Although my old friend has, both in his first abstract, and his last letter, used some racy expressions, and that I have thought it right to speak plainly, I look with undiminished confidence to our sliding down the shady slope of life with that mutual esteem and regard which were formed when climbing many a hill together both at home and abroad," Sedgwick at once responded: "To the concluding words of my friend's comment I express my heartfelt concurrence. When we went round the Highlands of Scotland in 1827, I was then his superior in physical endurance; but a quarter of a century has, alas! made me but a sorry labourer in the field. Still I am not without hopes of again meeting him in his true Silurian country, and endeavouring to settle, along with him, one or two minute, and not laborious, questions of demarcation to which I have just pointed." Not long afterwards he wrote the genial letter which we have already printed[1].

We must now sum up the argument in Sedgwick's own words[2]: "At the end of the summer of 1832 I had *made no mistake in principle* in my interpretation of the phenomena of North and South Wales, so far as I had studied them; and most of my best sectional illustrations of the structure of Wales, published afterwards in successive papers, have been copied line for line from sections made in the field in the summers of 1831, 1832." His old sections and diagrams of 1831, 1832, are still in existence, and it is a very ungenerous thing, to use no stronger expression, that those who were present when they were exhibited and explained should appeal to the

[1] Vol. ii. p. 250.

[2] *Quarterly Journal* of the Geological Society, viii. 152.

meagre report of proceedings in a manner that insinuates that Sedgwick had, up to a later date, offered no clear view of the classification of North Wales. "Twice," says he, "(in 1834 and 1843) I changed the nomenclature of some of my upper groups, to bring them into a supposed accordance with his (Murchison's) Silurian types, and each time I was driven from my hypothesis by a downright *reductio ad absurdum;* and I afterwards returned to my first nomenclature, because I found my sections consistent and true in principle, however imperfect some of them might have been in finish, and in the exhibition of minute details." When Sedgwick went over the sections with Salter in 1843, but did not clear up the inconsistency, he said, "Far be it from me to blame my friend Mr Salter for it. He rightly translated the rocks we saw into the Silurian tongue; but that tongue misled us both. In point of fact, we were attempting an impossibility; we were endeavouring to join my upper Cambrian Series, which was rightly interpreted, to the lower beds of the Silurian Series, which had been wrongly interpreted, and shifted out of their true place in the great continuous Cambrian sections. All my papers...between 1843 and 1846 necessarily partake of the mistakes to which I have just pointed[1]."

We have given extracts from Sedgwick and Murchison at various periods during the progress of their work, and the growth of the controversy, even at the expense of frequent repetition of similar arguments, in order to show that Sedgwick never acquiesced in the erroneous classification, but maintained the accuracy of his original sections. He tried to reconcile them with Murchison's sections, and offered all sorts of suggestions in explanation. It was these attempts to reconcile his correct sections with Murchison's classification founded upon wrong sections, that Sedgwick sometimes referred to as "mistakes"—an expression taken advantage of by his opponents. We have dwelt upon this, as it is not unfrequently stated that "still Sedgwick made no protest"

[1] *Quarterly Journal* of the Geological Society, viii. 154.

at this, that, or the other time. There was nothing to protest about as long as he believed Murchison's sections must be right, and that only more knowledge of the intermediate ground was wanted to enable them to bring their work into harmony. But now that the truth is known, the protest has been, of necessity, strong.

Now comes a curious sequel to our story. A proposal has been made to take all Sedgwick's Arenig and Bala Beds, and Murchison's Llandeilo and Caradoc, and constitute, not Upper Cambrian, not Lower Silurian, but *Ordovician*, with a view to putting an end to controversy! One shell is given to Sedgwick, the other to Murchison, but who gets the oyster? The Director-General of the Survey, Murchison's brilliant biographer, does not accept this. Certainly Sedgwick's biographers cannot. The distinguished American geologist Dana has repudiated it, but he, unfortunately, has been misinformed as to the part which Murchison and Sedgwick took in the early working out of the Cambrian and Silurian Sections, and therefore inclines to give Murchison credit of priority. If priority of correct description is to weigh in deciding what nomenclature shall be adopted, we claim for Sedgwick that all the rocks from the base of the Harlech Series to the top of the Bala Series must be called Cambrian, whatever subordinate grouping of the various subdivisions may be found convenient as the outcome of more recent work. Some have endeavoured to show that the Taconic System of Emmons has priority over Sedgwick's Cambrian, but Dana[1] points out "that *the term 'Cambrian' antedates 'Taconic' of Emmons by seven years*," and Sterry Hunt explains how "Emmons, misled by stratigraphical and lithological considerations, complicated the question in a singular manner, which scarcely finds a parallel except in the history of Murchison's Silurian Section, namely [as Dr Sterry Hunt has elsewhere shown], by completely inverting the order of succession in his Taconic system." We claim, with Jukes, that "Sedgwick knew the

[1] *American Journal of Science*, Vol. xxxix. March, 1890, p. 171.

structure of North Wales before any other man;" and that "as to any controversy between Sedgwick and Murchison on points of physical geology, the thing was ridiculous."

When it is urged that so many geologists at home and abroad have accepted Murchison's views, we must remember that it is not Murchison's classification as given in *The Silurian System* that is adopted, but Murchison's old nomenclature grafted on to his classification as modified by the Survey; a classification which has been approaching nearer and nearer to that of Sedgwick at each change, until the Lower Silurian of Ramsay was exactly the Cambrian of Sedgwick. Also we must bear in mind that the use of the nomenclature adopted by the English Survey became almost a necessity among geologists working on Cambrian or Silurian ground, and does not at all imply a verdict in favour of Murchison on the points at issue. There were only a few here and there who felt called upon to look into the question and express an opinion upon it.

Dr Törnquist used Murchison's nomenclature because it was generally understood, but in a note expresses his opinion that Sedgwick was right in the controversy with Murchison[1]. Meneghini held the same view.

In that most valuable work *The Manual of the Mollusca* by S. P. Woodward, we find that though references are often given to Lower Silurian when quoting an author who uses that terminology—still in the Geological Table given when he is explaining the range in time of the various genera, the classification is Sedgwick's, viz.

I. Everything from the Longmynd rocks to the top of the Bala Series.

II. Everything from the bottom of the May Hill Sandstone to the top of the Ludlow Series.

And Dr S. P. Woodward's son, the author of the best

[1] Om Fågelsångstraktens under Siluriska lager. *Lunds Univ. Årsskrift.* Tom. I. iii. 2.

work on the Geology of England and Wales which has yet appeared, writes:

"The division between Cambrian and Silurian proposed by Sedgwick is one that marks the most important break noticed in the Series in England and Wales. Were this classification generally adopted, it would only be an act of justice to the geologist, who first made out the natural divisions of the older palæozoic rocks, whose early researches have been shown to be in all essential points correct, but whose work has not until the last few years, received adequate acknowledgment[1]."

Dr Dawson, in his presidential address to the Natural History Society of Montreal in May 1872, recognised "the necessity of a reform in the nomenclature of the palæozoic rocks in conformity with the views of Sedgwick," and "would restrict to the rocks of the third fauna the name of Silurian;" but he would reserve the name Cambrian for the first fauna only, and apply a new name to the rocks characterised by the second fauna. But surely the honour of first correct determination of these beds must be assigned to either Sedgwick or Murchison. No third party has any claim whatever.

Dr Henry Woodward, in a review of the *Catalogue of Cambrian and Silurian Fossils* &c., says:

"One thing is very clear, that Murchison—although not justified by good evidences of unconformity in the strata and of a break in time and in the succession of the rocks, and a change in conditions, both lithological and palæontological—carried the day with the public, stealing a march on his old friend's boundary-line; at first, as Sedgwick intimates, by issuing a small map in the atlas published by the Society for the Diffusion of Useful Knowledge (in 1843)..... and afterwards by a bold assumption of right of priority, which he ever after maintained. Of his treatment by the council of the Geological Society—(then, it is to be feared, entirely led by Murchison and completely under his control)—Sedgwick cannot evidently bring himself to speak in any measured terms.....All through his life Sedgwick retained [his] honest, frank simplicity of manner.....There was a singular blending of almost womanly tenderness and affection in his nature, with a stern, uncompromising love of truth, and a healthy and hearty aversion for whatever was unjust or mean. Thus while he keenly regretted to the last his loss of Murchison's friendship—more so perhaps even than the usurpation

[1] *The Geology of England and Wales*, 2nd ed. 1887, p. 49.

by another of the labours of so many years of good, sound, honest, geological work—yet he could never recover from the sense of unfair treatment which he felt he had so little merited either from his friend Sir Roderick or from the Geological Society[1]."

In an able essay[2] on the classification of the Cambrian and Silurian Rocks Mr Marr says:

"Since the year 1831, memorable in the history of the Lower Palæozoic rocks as the date when Sedgwick and Murchison independently set to work to unravel their structure, and to establish two systems from out of the confusion of the greywacke, every year has added afresh to our knowledge of these rocks; but notwithstanding the numerous detailed accounts published, we are still far from possessing any definitely accepted nomenclature.

As is well known, this confusion originally arose on account of errors committed by the founder of the Silurian System...Yet, rather than assign to the Silurian System only those subdivisions to which Murchison was entitled to lay claim, geologists have been content to see absorbed into it one after another of the subdivisions of that grand natural system which was built up single-handed by Sedgwick, until either the whole of it has been thus taken, or a few hundred feet of slate only left as a tribute to the genius of the founder of the Cambrian System. For many years the claims of our late Professor were ignored, or at most passed over, on the ground that it was too late to adopt his classification as that of his opponent was now definitely accepted. Of recent years, however, compromises have been offered which have had one beneficial result, viz. that of throwing the nomenclature of the Lower Palæozoic rocks into a state of confusion; and it is difficult to see how this state of affairs can be altered, except by the adoption of the true historic classification, which is accordingly being done by an ever increasing number of geologists."

His essay concludes as follows:

"I see neither truth nor geological convenience in adopting any other classification than that which includes the rocks from the base of the Harlech to the top of the Bala Series in the Cambrian System, and the rocks from the base of the Valentian to the top of the Downtonian Series in the Silurian System."

Dr Sterry Hunt[1], "having been desired, in 1872, to prepare for publication a notice of the Scientific labors of Murchison,"

[1] The *Academy*, Sept. 1, 1873, p. 332.

[2] The classification of the Cambrian and Silurian Rocks, by J. E. Marr, M.A., F.G.S. 8vo. Cambridge, 1883.

[1] Chemical and Geological Essays, Boston, 1875. *Canadian Naturalist*, April and July 1872. *Nature*, May 1872. *Geological Magazine*, 1873.

found it "necessary to examine the whole ground of the Cambrian and Silurian controversy, a task which," he says, "proved much more serious than I had supposed, and brought to light facts which both surprised and pained me."

He remarks that in 1854 Murchison coloured as Lower Silurian, on the map published with his first edition of *Siluria*, all but the lowest division of Sedgwick's Cambrian, and any one reading the abstract [of Sedgwick's paper of March, 1845] will see that it was not drawn up by the author of the paper. Indeed Sedgwick expressly repudiates it and the nomenclature substituted in it for that which he had used. "Yet the words of this abstract are quoted with emphasis in *Siluria*[1] as if they were Sedgwick's own language recognising Murchison's Silurian nomenclature."

In an able review of the whole question he explains how:

"Notwithstanding the support given by Barrande, by the Geological Survey of Great Britain, and by most American geologists to the Silurian nomenclature of Murchison, it is rejected, so far as the Lingula Flags and the Tremadoc Slates are concerned, by Lyell, Phillips, Davidson, Harkness, and Hicks in England, and by Linnarsson in Sweden. These geologists have, however, admitted the name of Lower Silurian for the Bala Group or Upper Cambrian of Sedgwick; a concession which can hardly be defended, but which apparently found its way into use at a time when the yet unravelled perplexities of the Welsh rocks led Sedgwick himself to propose, for a time, the name of Cambro-Silurian for the Bala Group....

The Silurian nomenclature of Murchison and the British Geological Survey has been, through Lyell, de Verneuil and the Canadian Survey, introduced into American Geology in opposition to the judgment, and against the protests, of James Hall and the Messrs Rogers, the founders of American palæozoic geology.....I cannot but agree with the late Henry Darwin Rogers, who, in 1856, reserved the designation of 'the true European Silurian' for the rocks above this horizon (that of the second fauna)...and followed Sedgwick in giving the name of Cambrian to the whole Palæozoic series up to the base of the May Hill Sandstone...As regards the extension to the Upper Cambrian of Sedgwick of the name of Lower Silurian, which, as has been shown, was given to it only through an enormous, and now universally acknowledged, mistake on the part of Murchison, I am constrained, notwithstanding its adoption by so many eminent geologists, to maintain for the division the name given to it by its true discoverer Sedgwick."

[1] *Siluria*, 1st ed. 1854, p. 147.

The "want of agreement among geologists as to the nomenclature of the lower palæozoic rocks, causes no little confusion to the learner," but Dr Sterry Hunt points out, that instead of the difficulties being cleared up by Murchison's work, referring especially to this abridgment of the *Silurian System*, of which several editions rapidly followed one another from 1854 onward[1], "the student of *Siluria* soon learns that in all cases where Murchison's pretensions were concerned, the book is only calculated to mislead."

After showing how unsettled was the Cambrian nomenclature, some taking in lower and lower beds of the Cambrian, and adding them on to the base of the Silurian; others retreating upwards, and adding on to the Cambrian of Murchison, first the Menevian, then the whole of the Lingula Flags, then the Tremadoc beds also; and after pointing out how Barrande made the Silurian to include not only the Lingula Flags proper, but the Menevian and even a great part of the Harlech rocks themselves (the Cambrian of Murchison and the Geological Survey), for the reason that the primordial fauna had now been shown by Hicks to extend towards their base, Sterry Hunt thus concludes:

"This, although consistent with Barrande's previous views as to the extension of the name Silurian, is a still greater violation of historic truth. By thus making the Silurian System of Murchison to include successively the Upper Cambrian and the Middle Cambrian of Sedgwick, and finally his Lower Cambrian (the Cambrian System of Murchison himself), we seem to have arrived at a *reductio ad absurdum* of the Silurian nomenclature; and we may apply to Siluria, as Sedgwick has already done, the apt quotation once used by Conybeare with reference to the greywacke of the older geologists, which it replaces: '*Est Jupiter quodcunque vides*'."

"The labors of his (Sedgwick's) successors in the study of British Geology, up to the present time, have only served to confirm the exactitude of his early stratigraphical determinations; and the last results of investigations on both continents unite in showing that in the Cambrian Series, as defined by him more than a generation since, he laid, on a sure foundation, the basis of palæozoic geology."

[1] *Siluria*. The history of the oldest fossiliferous rocks and their foundations, &c. London, Murray, 1854 et seq.

The American Naturalist, commenting upon Dr Sterry Hunt's essay, says:

"It is a very valuable contribution to the history of the science, and its value will increase with time. It throws a flood of light on points of great perplexity for the student, and Dr Hunt has, in writing it, done the science a real service. It is the first complete recognition of the claims of Sedgwick from the pen of one well qualified to write the history of that painful controversy, and it is to be hoped that the time is not very remote when geologists will generally refuse to recognise the unwarrantable usurpations of Murchison[1]."

In awarding the Copley medal to Sedgwick in 1863[2] the President, Sir Edward Sabine, gave an excellent sketch of his work, from which the following extracts may fitly close our quotations.

"Up to a recent period, comprising an interval of upwards of forty years, he has devoted himself to geological researches with an ability, a persistent zeal, and untiring perseverance which place him amongst the foremost of those eminent men by whose genius, sagacity, and labours the science of geology has attained its present high position. To duly appreciate his earlier work as a geological observer and reasoner, we must recall to recollection the comparative ignorance which prevailed forty or fifty years ago, to the dispersion of which his labours have so largely contributed. Geology was then beset by wild untenable speculations on the one hand, whilst on the other even its most calm and rational theories were received by many with distrust or with ridicule—and by others with aversion, as likely to interfere with those convictions on which the best hopes of man repose.

Under such circumstances geology needed the support and open advocacy of men who, by their intellect and acquirements, and by the respect attached to their individual characters, their profession, or social position might be able on the one hand to repress wild fancies, and on the other to rebut the unfounded assertions of those who opposed the discussion of scientific truth. Such a man was Professor Sedgwick, and such was the influence he exerted. It may be well to make this allusion on an occasion like the present, because it often happens, not unnaturally, that those who are most occupied with the questions of the day, in an advancing science, retain but an imperfect recollection of the obligations due to those who laid the first foundation of our subsequent knowledge.

More than forty years have passed since Professor Sedgwick began those researches among the older rocks of England which

[1] *American Naturalist,* Vol. IX. July 1875, No. 7, p. 417.

[2] *Proceedings Royal Society,* vol. xiii. 1863—4, p. 31.

it became the main purpose of his life to complete....Before the names of Cambrian and Silurian were ever heard, under which we now thankfully class the strata of the English lakes, those rocks had been vigorously assailed and brought into a lucid order and system which is to this day unchanged, though by the same hands which laid the foundations many important additions have been made....Perhaps no district in the world affords an example of one man's researches begun so early, continued so long, and ending so successfully. By these persevering efforts the Geology of the Lake District came out into the light; and there is no doubt, and can be no hesitation in ascribing to them the undivided honour of the first unrolling of the long series of deposits which constitute the oldest groups of British fossiliferous Rocks.

Still more complete, however, was the success of that work which was undertaken immediately afterwards on the coeval rocks of Wales....Further and still minuter details were subsequently given, as was to be expected, by the Government Surveyors; but the general arrangement, finally recognised on the map of the Survey, is essentially the same as that previously worked out by his unaided labours.

It was a principle always advocated by Professor Sedgwick, that the geological structure of a complicated district could never be accurately determined by fossils alone without a detailed examination of its stratification. He always proceeded on this principle; nor (from the paucity of the organic remains) would it have been possible on any other principle to have determined the real geological character of those older districts which he investigated so successfully. His arrangement and nomenclature of the Cambrian rocks in North Wales...possesses the weight which must always be recognised as appertaining to the authority of the geologist who, by his own labours, first solved the great problem of the physical structure of the district....

It will be observed that the memoirs which have been noticed are for the most part pervaded by a certain unity of purpose. The investigations were not on points of merely local interest, but were essential for the elucidation of the geological history of our planet during those early periods of which the records are most difficult to unfold. Few persons perhaps can have an adequate idea of the difficulties he had to contend with when he first entered North Wales as a geologist. Geologically speaking, it was a *terra incognita* of which he undertook to read the geological history before any one had deciphered the characters in which it is written. Moreover, besides the indistinctness and complexity of the stratification, and the obscurity which then prevailed as to the distinction between planes of stratification and planes of cleavage, there was also the difficulty of what may be called 'mountain geometry'—that geometry by which we unite in imagination lines and surfaces observed in one part of a complicated mountain or district with those in another, so as to form a distinct geometrical conception

of the arrangement of the intervening masses. This is not an ordinary power; but Mr Sedgwick's early mathematical education was favourable to the cultivation of it. We think it extremely doubtful whether any other British geologist forty years ago could have undertaken, with a fair chance of success, the great and difficult work which he accomplished.

Such are the direct and legitimate claims of Professor Sedgwick to the honour conferred upon him by the award of the Copley Medal. But there are also other claims, less direct, but which it would be wrong to pass altogether unnoticed. It is not only by written documents that knowledge and a taste for its acquirement are disseminated; and those who have had the good fortune to attend Professor Sedgwick's lectures, or may have enjoyed social intercourse with him, will testify to the charm and interest he frequently gives to geology by the happy mixture of playful elucidation of the subject with the graver and eloquent exposition of its higher principles and objects."

CHAPTER IX.

SEDGWICK'S LIFE AT NORWICH.

1834—1873.

BY THE

REV. C. K. ROBINSON, D.D.

MASTER OF S. CATHARINE'S COLLEGE, AND PREBENDARY OF NORWICH.

THE appointment of Sedgwick to a Prebendal Stall at Norwich in 1834 has been already related.[1] The selection reflects great credit on the foresight of Lord Brougham, for no member of the Chapter, in living memory, left a deeper impression upon the city. His strong character, his marked individuality, his impulsive manner, his warm heart—are still fixed in the memory of the few friends who can remember the early days of his residence at Norwich.

The other prebendaries were Dr Philip Fisher, the Rev. Edward South Thurlow, Dr Procter (Master of S. Catharine's College, Cambridge), and the Rev. Charles Nourse Wodehouse.

When Sedgwick first took up his residence in the Close, in December 1834, Norwich still retained many traces of the literary and artistic celebrity to which it had attained in the early years of the century. The musical festivals were still famous, as well for the local talent by which they were

[1] See above, Vol. i. pp. 432—437.

maintained, as for the new musical works performed at them. Under Dr Buck the Cathedral choir was carefully and successfully trained. The Norwich school of painting was in the midst of a successful career, stamping its own individuality upon local art. Old Crome had been dead thirteen years, but his son, J. B. Crome, John Sell Cotman, Stark, Middleton, Ladbrooke, and others were still at their best. Like that outburst of Dutch painting in the 17th century, with which the Norwich School has some analogies, it was both preceded and accompanied by a period of literary culture. The "Friars Society," instituted in 1785 for literary purposes, had not long ceased to exist. William Wyndham and Sir Robert Walpole were still well remembered by the older inhabitants. Harriet Martineau was a native of Norwich; and though, after her young days were over, she seldom resided there, she often visited her relations, and took a pleasure in going over the old house in Magdalen Street. "There it is," she writes, "a handsome plain brick house in a narrow street, roomy and good-looking enough, but prosaic to the last degree. Yet there were my dreamy years passed."

For the first three years of Sedgwick's tenure of office, Bathurst, as already mentioned[1], was Bishop of Norwich. He was succeeded, in 1837, by Bishop Stanley. One of his family, Mrs Vaughan, writes to me: "We knew Professor Sedgwick better than any one else did during the days of his residence amongst us. Next to ourselves, Mrs Opie, Joseph John Gurney, and Hudson Gurney were his greatest friends. He threw a mantle of love over every one, and loved us and was beloved by all as no one in Norwich ever was, or ever will be again."

Mrs Opie was the daughter of Dr Alderson—the wife, and for many years the widow, of the painter Opie. In early life she was famous for her wit and attractiveness, and also for her *Simple Tales*, now almost forgotten. Sedgwick was much attached to her, and was a frequent guest at her hospitable

[1] See above, Vol. i. p. 485.

table. His thoughts on reading her *Life* have been already quoted; but I cannot refrain from giving here his recollections of her and some of her friends, written twelve years after her death:

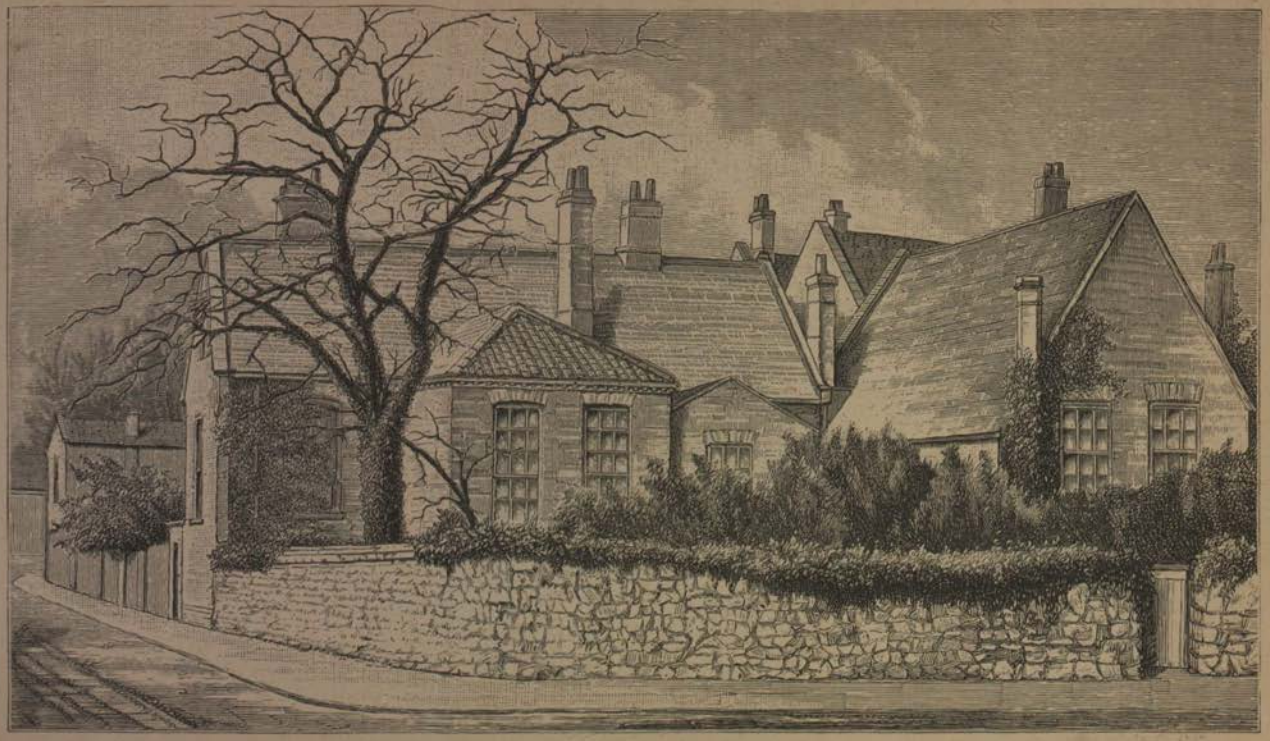
"...Mrs Opie, her face beaming with joy, and her high-peaked cap standing erect by the power of starch; and Rachel Fowler with a charming face and manner, of sweet intelligence, and with a starched soaring cap—not however so stiff as to defy all collapses (and the thought struck me that it certainly would collapse were she to marry a good Episcopalian); and Mrs Elliott, of rarest taste and talents, but of such shyness as to conceal her talents, not under a napkin but under a tablecloth, yet, when her heart and mind became uncovered, a woman not only of highest gifts but of sweetest temper, and—No! I will stop short—for the party you mention does, at this moment, fill my mind's eye and my memory, and I thank you for the vision...."[1]

Mr Joseph John Gurney, a rich and benevolent Quaker, had studied at Oxford. His fine library, now in the possession of a relative, remains much as he left it, and is evidence that his theological writings were the work of one who had a large collection of ecclesiastical and patristic literature. Mr Hudson Gurney, a man of considerable knowledge and cultivation, was seen in later years (at Keswick near Norwich) only by a few friends who did not object to turn night into day. They were well repaid by the brightness and intelligence of his conversation. Sedgwick often called upon him, and arriving at seven in the evening was his earliest visitor. At nine he departed, and, in allusion to the invariable respirator, Gurney's parting joke used to be: "Now, Mr Professor, have you got your muzzle on?"

Such was the circle of friends into which Sedgwick was warmly welcomed in December, 1834.[2] The house assigned

[1] To Mrs Philpott, 18 January, 1865.

[2] See his own account of it, Vol. i. p. 437.



Sedgwick's house at Norwich.

to him stands between the upper and lower Close, at the corner of the road leading to the south transept of the Cathedral, opposite to the Deanery. It has been very much altered since his time, but the sketch of it here given, reproduced from a water-colour drawing by one of his nieces, as well as his own description, will supply us with some idea of what it was when he lived in it.

To Miss Catherine M. Sedgwick[1].

THE CLOSE, NORWICH, *September 9th*, 1869.

"...I live here in a queer old house that lurks under our grand Cathedral. The north wall of my house formed the south wall of the Infirmary of the great Monastery erected by Herbert de Losinga, one of the hungry ragamuffins who came over with William of Normandy. They committed atrocities during life enough to sink them into the pits of purgatory; and then out of the spoils of the poor Saxons built churches of a grandeur novel to the old England of Anglo-Saxon days—in which monks, and whole armies of acolytes, might by the magic of masses and mummeries bring them back again into the light of heaven's sun. What a portentous scheme of clerical imposture! And yet it had its brighter side in those dark and evil days. In my kitchen-wall are two Norman arches. Our streets are narrow and crooked, showing, at every turn, strange grotesque marks of great antiquity. I like them all the better for it. We have a noble market-place. Our city walls, put last in repair by Edward the Third, are crumbling away into entire ruin, and are much used in supplying materials for modern buildings; but the Keep of the Royal Castle, built by William Rufus, still frowns grandly upon the lower city as seen from a chalk hill on its southern side; and we are surrounded by Roman antiquities of great extent and antiquarian interest. One of the largest of three *castra stativa* was about four

[1] An American "*cousin*."

miles out of Norwich. It still retains a part of its mural facings of alternating flint and brick...."

His daily life at Norwich, too, can be given in his own words.

To Miss Kate Malcolm.

NORWICH, *December 17th*, 1844.

..."My life is as uniform as that of a mill-horse. I have no continuous time to call my own—it is not a staff for me to lean upon, but made up of chips and shavings. Nay that old thief Time seems to be running such a race with me, and so twists about among the nooks and corners of our Cathedral Close, that I seldom catch a real glimpse of his body, and only now and then see his ugly shadow. The only time I can come up with him is during the hours I ought to be sleeping. I have tried to make him do some of my dirty work about midnight; but the old man is so tired and cross, that he only spoils the work I set him on. So I have been forced to change my treatment, and I call the old gentleman up two or three hours before daylight, and then I make him brush my shoes, mend my pen, and boil my coffee. Then I sit down, as I am now doing, to write, and send him about his business. But soon after the old knave will come back, and rouse me out of my morning dreams—telling me my servants are waiting for me—that Mrs Barnes has some house bills—that my horse has been merry and thrown my groom off its back (and no wonder, for the lad is as dull as a lump of lead, and I dare say feels heavy to my light-heeled horse; but the beast has never had me off yet. Oh that you were here to train it for me!)—that my little German dog wants some physic. These things done, I dip my pen in ink again; and before I have written a page I am told that the Dean wants me on particular business before morning service. Well! I have this instant been called out, not figuratively, but literally—so good morning for one half hour.

I meet my servants at eight, and we have morning prayers by candle light. I wish you had been here to drill them. As they are my only live companions, except my dog, I am anxious that you should know all about them. John, my old *fac-totum*, is grave and solemn; my groom is a lout; but he is virtuous as well as dull. But Mrs Barnes! the perfect image of a Canonical house-keeper—grave and respectful in manner—voluble in tongue—neat in dress—tall in person, and skilled in the lore of old receipts for table-comforts, and practised in the use of them—(do come and try as soon as you can)—in short, she is perfect in her way, as far as perfection may be found below the moon. My cook makes mutton-broth and plain pudding to a marvel, and my house-maid airs sheets well, and makes blazing fires. Now you know all about my establishment, and all about my life here, as far as regards externals; for I am living in solitude, and have so far refused all parties. I began Residence, as we call it, on Sunday the first of this month. It was not a day of rest. The day was pinching, the service very long—my sermon not short—and after morning service the Sacrament. Before evening service, I went to the County Hospital (of which I am this month the Chaplain) and again had a long sermon. It did not, however, fatigue me, as I always talk my sermon to the poor people, and they like it better than reading. I can, in that way, make it more personal, and more immediately applicable to their condition. Oh! how these poor people put to shame the more formal congregation of the Cathedral! But that day a clergyman was taken suddenly so ill that he could not begin his duty, and I went and had evening service and a third sermon at one of our parish churches in his place. I came home half frozen, and very much fatigued; and all night after my head so throbbed that I could hardly close my eyes in sleep.

...We have admirable Church music. Our Minor Canons do their duty well. We have, of course, full Cathedral service morning and evening....But all this will not bring a

daily congregation; and the duty is most cold, and formal, and desolate. I do not love its great formality...."

The Canons of Norwich receive a good deal of hospitality, and are expected to return it. No member of the body was ever more truly 'a lover of hospitality' than Sedgwick. One of his early friends, the Rev. H. Symonds, writes:

"His arrival in Norwich was a signal for the beginning of high festivity. He was so genial and hospitable. Many were the entertainments he gave, and many were those that were offered to him in Norwich, and in the country for miles around. His own entertainments were made very attractive by the frequent presence of friends of his own from Cambridge, as Whewell, Airy, Romilly; and others of note and celebrity from a distance, as Murchison, Buckland, Henslow, Phillips. The conversation at his table was very fascinating. An impress of his genius pervaded it. He would tell us of his wanderings in England, Ireland, and on the continent, in the most delightful strain."

Mrs Vaughan writes to me:

"His house was the scene of a constant succession of hospitalities; and his warm and genial influence had such an effect upon his guests, that those who were shy and reserved elsewhere, were transformed, when once they got into his drawing-room, and became bright, and happy, and talkative. Most delightful were the evenings we have passed there. I am quite sure that none who have assisted at those gatherings can ever lose the recollection of them. Under his roof we learnt the true meaning of the word 'hospitality,' and all that it includes, if it is to be seen in its perfection. We felt that he was a man who 'abhorred every false way,' and would endure no shadow of insincerity, and at the same time that he would suffer no departure, however slight, from the law of kindness and of love."

A volume might be filled with his table-talk; and indeed it is much to be regretted that no one ever persuaded him to write his reminiscences. Now and then some friend, more careful than the rest, did commit a striking anecdote to paper. Here is one, out of many such, preserved by the care of Miss Brightwell.

We were dining at the Professor's house in the Close—it was so long ago as the year 1847—when the conversation turned upon Sir Harry Smith. The Professor told us how he early got a Commission in the army, and saw hard service in the Peninsular war, where he was wounded, and sent home invalided. After a time he recovered

sufficiently to be off again, and was at the storming of Badajoz, where he found his wife. 'The soldiers there behaved terribly' said Sedgwick; 'for some days they continued to pillage...Harry was passing down a street, when suddenly the door of a house, or convent, burst open, and a young girl rushed out, screaming with terror, three or four soldiers after her. Seeing an officer, she flung herself upon him, clinging to him for protection. He acted like a humane and brave man, and did protect her, conveying her to his hotel, and taking care of her. She was a lovely girl, and very soon they were married. She has made him an excellent wife, accompanying him through all his campaigns, sharing his fare—living, in short, like a gipsy, or a tinker's wife. She was an excellent horsewoman, and I have heard officers say they had frequently seen her on the field of battle looking after her husband...And now she is a pleasant comfortable looking dame, with mild manners and soft sweet voice, and none of that roughness you might have expected from such a course of life.' Our host then went on to tell us of another episode in Sir Harry's history: 'On the second day of Prince Albert's Installation at Cambridge, when the Duke of Wellington was leaving the Senate House, a loud peal of cheers was raised for him; and, immediately after, Harry was caught sight of. "Cheers for Sir Harry Smith" were called for; and the Duke, turning back, laid hold of Sir Harry and turned him round, saying: "There you have him." Indeed he is more like the Duke's son, so much is he attached to him.'

His geological rambles had led him into many out-of-the way places, and supplied him with many amusing experiences. Some of these have been related already, but two more may be inserted here.

SCENE: *The coast of Cornwall.*

Sedgwick discovered geologising on the cliff-side. Enter to him two or three Smugglers.

Sm. (*respectfully*). Good morning, Sir.

S. Good morning, my fine fellows.

Sm. You seem too sharp a looking gentleman to be looking after them stones. (*After a pause.*) We'll shew you the nicest little cove where you can land a keg o' brandy.

S. My good friends, I'm much obliged to you, but I don't want to land a keg of brandy.

Sm. (*with a disappointed air*). Us sees you've no confidence in we.

THE LADY AND THE SHILLING.

Did I ever earn a shilling? Yes, I did—one day in Wales. I had had a long tramp on the hills, and was walking home, dog-tired, and very dirty, when I caught sight of fossils in some stones laid by

the wayside. So I sat down, and began hammering away. Presently a lady came up, and asked me several questions about the country, and how she was to get to a place the name of which I have now forgotten. She thanked me for my information, and added: 'Poor man, you must find this very hard work.' 'Yes, indeed I do,' I replied; whereupon she took out her purse, and gave me a shilling. Next evening, to my great amusement, she came to dine at the house where I was staying. I recognised her at once, but she did not know me, in my altered dress. She was visiting Wales for the first time, and was full of enthusiasm for the scenery and the people. 'They are so obliging, and so communicative,' she said; 'only yesterday I had a long conversation with an old man who was breaking stones on the road. He told me all I wanted to know, and was so civil that I gave him a shilling.' I could not resist the pleasure of saying, 'Yes, Ma'am, you did, and here it is!'

Among the narratives specially popular on these occasions were three love-stories. I have often heard them, for his lady-friends used various devices to draw them from him, and were never tired of listening to them. These stories were so entwined with his earliest recollections, that he told them with as much pathos and vivacity as if the shadow on the dial of time had gone backwards, and he himself was one of the heroes of the narrative. Many will recollect his account of a beautiful girl, the daughter of a simple "statesman" in the dale of Dent, whose path was crossed by a young man far above her in station, while taking an excursion through the remoter parts of north-west Yorkshire. A strong attachment on both sides quickly sprang up. He determined that his future wife should be properly educated, for she knew little but the simple learning taught in the village school. Sedgwick's relatives at the vicarage were asked to invite her to their home in the evenings, and so help to prepare her for her future life. "All this," Sedgwick said, "might have been a failure and a disappointment, as commonly happens. The young wife might have felt herself unable to rise to her new position. The husband's relatives might have slighted and despised her, and in the end the husband himself, tired of his new toy, might have treated his wife with neglect and indifference." But then he passed, with triumphant delight,

to the climax of his story. He told us that the marriage was a perfect success. The young wife, with a fine temper, strong sense, tact, and judgment, rose to her new position. Instead of being neglected and despised by her husband's family, she became herself the bond of union—linking together all its members—the centre of attraction to which they all turned—loving and beloved to the end of her life. All who knew her could testify that this was no mere romance. I myself well remember spending a Sunday evening at her house in her old age, and being a witness of a moral sunset sweeter than the landscape seen from her windows, then steeped in the summer's sun—and of that almost finished romance which had long since reached its catastrophe.

The heroine of his second love-story was the sister of one of his earliest and most intimate friends. This lady, when on a visit to her sister at Oxford, was seen in New College Chapel by a young undergraduate, who was so struck by her appearance that at the end of term he wrote to her brother in the north of England, for permission to see his sister, and plead his cause with her. On being asked as to his means of supporting a wife, he admitted that he was a younger son, mainly dependent upon his own exertions. Such being the case the brother declined to allow an interview with his sister, alleging that a feeling which arose from seeing her only on one or two occasions, without a word having passed between them, was not likely to be either deep or lasting. The young man was much disappointed. It happened, however, that within a year his elder brother died, and he succeeded to a large family property. As soon as he was able to leave home, true to this strange and sudden attachment, he went north again, and asked to see Mr ——. "Now," he said, "I have come to tell you that the objections you urged against my suit are removed, as by the death of my brother I am possessed of ample means, and I hope that you will now allow me to be introduced to your sister." The brother answered: "I am very sorry to say that this is now impossible, for since you

were here last year my sister has become engaged to another, and is shortly to be married." Some time afterwards, the lady, who knew nothing of this strong attachment to herself, was surprised to learn that one who had never spoken a word to her, and whom she had never distinguished from other undergraduates whom she had seen at Oxford, had died, and left her the whole of his real and personal estate. A paragraph from a newspaper, announcing her marriage, was found pasted inside his writing-desk. Through some informality in the Will his intentions as to the real estate could not be carried out, but the whole of the personal estate and effects passed, as he desired, to her, a glimpse of whom had wrought in him a lasting and imperishable love.

The third story can fortunately be given almost exactly as Sedgwick used to tell it.

THE OLD MAID OF THE VILLAGE.

'Have you ever been in Swaledale?' 'No?' Then you have not seen one of the most beautiful dales of the north-west of Yorkshire. The lower part is well wooded and fertile; the upper part runs up to the grand lonely moors and fells, and has a wild beauty of its own. And now for the love story! and a true love story it shall be!

Many, many years ago, sometime in the last century, Mr D., the son of a Leicestershire Squire, joined a party of friends, who were shooting grouse on Stainmoor and the adjacent fells. Some of them lodged at a farmhouse at Muker in the upper part of Swaledale, and occasionally saw a very beautiful young girl in the distance, who had evidently come to visit one of the farmer's daughters. Mr D., whose heart seems to have been in a very inflammable condition—ready to take fire in a moment—fell in love with this charming girl, whose name, he ascertained, was Bessie. She was the daughter of a 'statesman' at Muker, who had made a fortune by the lead-mines on his small ancestral estate, and, added his informant, 'Bessie is as good as she is beautiful.' When the shooting season was nearly over, Mr D. called upon Bessie's father, and asked to be introduced to his daughter.

His request was treated with ridicule. He was told that Bessie was a girl of only sixteen, little more than a child, and the father said he would not have 'stuff and nonsense' put into her head. So the lover was dismissed, and Bessie knew nothing about his visit, neither had she ever spoken to him. Mr D. went home in low spirits, fell ill, and on consulting a doctor was told he was suffering from 'a

disease of the heart.' Marriage was counselled as the only cure. He took the advice, looked out for a wife, and married, and before long, sons and daughters surrounded his table. Alas! for Mr D., before long his wife died.

After her death the vision of the beautiful young girl in Swaledale came before him. She had long been grown up, and he heard she was still unmarried. He thought he would go and see her, so he mounted his curricle, and drove his two fine horses to Swaledale, called upon the old yeoman at Muker, made known his errand, and proposed for his daughter. Unfortunately Bessie was from home. Her father had neither sympathy nor patience with the middle-aged lover, and refused his consent. 'I will not part with my daughter,' he said, 'when I am growing old, and want her society and care.' So Mr D. turned away in just anger, for the old man refused to tell him where his daughter was staying. On the return journey, owing to his reckless driving, the carriage was upset, his leg was broken, and for many weeks he was laid up at a little country inn. At last he returned home, resolved to put Bessie out of his head, and, as the truth must be told, though it rather spoils the romance of my story, he looked about for another wife, married, and again had sons and daughters.

When Bessie heard of her admirer's visit to Muker, she said, *she* ought to have been told, and that if she had given her own reply, perhaps the accident might never have happened, for things might have turned out differently.

Some years after, the second wife died, and Mr D. was again a widower. Again his thoughts strayed back to the moors above Muker, and to the girl, who, years ago, when he and she were both young, had left such an abiding impression on his heart. The old statesman was dead, and Bessie lived with her married sister at Cowgill in the valley of Dent. But she had lost her beauty, and was now a joyless old maid! One day a letter came to her—she read it—and found it contained an offer of marriage from Mr D. Her sister told her she was too old to be married, and advised her to refuse the offer. But Bessie said, she would have her own way this time, and wrote an encouraging reply. Again Mr D. mounted his curricle, and two beautiful horses carried him from Leicestershire to Cowgill. The day after his arrival, he drove down the valley to my father at Dent, asked him to grant him a marriage-license, and to marry him to Bessie the next day. 'How did the bride look?' do you say. Truth again compels me to say that the lady was old and wrinkled, but just as an old wrinkled apple, when you put it in an oven, gradually swells out and loses all its wrinkles—so she lost all hers in the warmth of a happy home and a husband's love; and when I last saw her, during my freshman's year at Cambridge, she had become plump and rosy, and was again beautiful!

Children, more than their elders, drew forth his innate love of making others happy. I remember on one occasion,

when he came to see us, my children brought him a Chinese puzzle, which consisted in threading and unthreading ivory rings from an ivory ellipse. For an hour, at least, Sedgwick and they were busy at their task—he quite as much interested and absorbed as they were. "Young people," he said, "make me happy, and their cheerful, merry, ways are my delight." At Norwich his kindness towards young people was a marked feature of his life. "His parties for the children of his friends were full of all sorts of fun and delight. Nothing pleased him better than to take out a party of young ladies on horseback, and many there were who thought it the greatest of pleasures to be entrusted to his guardianship[1]."

Once in every year he gave a treat to the choristers. One of these is described in the following letter.

To Miss Grace Milne Holme.

NORWICH, *June 23rd*, 1863. 6 A.M.

"I had hardly time to read your very kind note, for my family party of six, and four or five friends who had come to join us in a trip down our river, were waiting for me; and I had engaged three boats for our choristers, who were in intense excitement, and the moment service was over, ran down to the boathouse. So, in a jolly party of thirty-two, distributed in four boats, we went down to a favourite little inn called *The White Summer House*, on the edge of a beautiful wood which skirts the river. The inn is about three miles down the river, and is famous for its ginger-beer, and pretty walks, and artificial caverns dug out of the chalk hills. And the young people made the place ring with happy lively songs. We then returned to my house, where my housekeeper had prepared a capital tea in the drawing-room, of which indeed the tea and coffee formed the smallest part. And in my dining-room there was a preparation for more than twenty connected with our choir. A round of beef; a

[1] From the Rev. H. Symonds.

sirloin of beef; cold veal pies; gooseberry pies, cakes, loads of strawberries, &c. &c. to help out the tea and coffee. And the lads did ample justice to Mrs Barnes' fare. That done, and after we had had our good tea &c. in the drawing-room, the choristers, men and boys, all turned out into my little garden. The evening was lovely, and they sang very beautifully. The chorus of Handel, *See the conquering Hero comes,* was sung twice over very admirably. About ten, more strawberries and cakes, and a good dose of home-made champagne. Then, *God save the Queen;* a little tip to the lads; good-night and away.

So, though often a wasp, I am not always so. But you are no judge, my dear Miss Grace; because I always behave my best when I am with ladies...."

Before I quit the subject of his hospitality at Norwich, one word may be added in respect of his relations with his brethren of the Chapter. It is almost needless to say that every member of it loved and venerated him. And well might this be the case, when he treated all with the utmost kindness. He could answer an invitation in such a way as to make even a refusal more charming than an acceptance.

To Mrs Robinson.

May 27th, 1868.

My dear Sister,

The Canons make a brotherhood. You and one of the Canons are one. Therefore you must be my canonical sister, and I tell the truth when I say that it would be a great joy to my fraternal feelings to dine with you. But my rule is rigid. It used in former days to bend; but it has long lost that power!

I trust, however, that you will kindly allow me to wait upon you on the evening of the Chapter day. I will take for granted that I shall have your permission, and count with joy upon the coming pleasure of meeting my friends at your Residence on the evening of the second of June....

I send my love to anyone who will accept that Christian offering.

Ever gratefully and truly yours,

A. SEDGWICK.

When Sedgwick came to Norwich the Museum formed the centre of attraction for those interested in science. He joined this institution soon after his arrival, and with characteristic ardour sought to promote its interests by every means in his power. In the course of the winter of 1834—35 the committee had established a series of Conversaziones to be held in the Museum. In the succeeding winter, with the view of increasing the attraction of these gatherings, Sedgwick offered to deliver a course of lectures on geology[1]. The Committee at first intended that these lectures should be delivered in the Museum itself, but their announcement caused so large an accession to the number of subscribers that it became necessary, on the eve of the delivery of the opening lecture, to engage the large room at *The Swan* Inn, opposite to the west end of St Peter's, Mancroft. The house is no longer an Inn, but the room in question may still be seen, used as a grocer's warehouse. It measures about forty feet by twenty-four.

The first lecture was delivered on Wednesday evening, 8 December, 1835, at 7.30; and the seventh and last on Wednesday, 21 January, 1836. On the first occasion 280 persons were present; but after the second lecture these numbers had increased to 400, so that the Committee were compelled to seek a still larger room, and removed to the Assembly Rooms.

Some of those who attended these lectures are still alive; and they assure me that the impression left on their minds—after an interval of more than fifty years—is still clear and vivid. The topics handled, and the characteristic manner of the lecturer, are still fresh in their recollection. The subjects of the lectures are now before me. They shew that it was

[1] See above, Vol. i. pp. 451—453.

Sedgwick's object to give his audience a rapid sketch of the formation of the crust of the earth.

Lecture I. The action of water on the surface of the Earth.

Lecture II. Further discussion of the action of water. Diluvium. Transported blocks. Gravel. Fossil bones in gravel. Hyæna dens. Supposed conflict between Geology and Revelation.

Lecture III. The Comparative Anatomy of the Mammalia.

Lecture IV. Volcanic phænomena.

Lecture V. Stratification. Synoptical view of the different English formations, with the fossils characteristic of each.

Lecture VI. Fossil Fish and Reptiles.

Lecture VII. Classification of the rocks composing the strata of the earth.

It is interesting to notice, having regard to the line Sedgwick took up in after years against Darwin, that in the third lecture he attacked the views of Lamarck. "He next elicited the smiles of his audience," we read, "by a most graphic and humourous sketch of Lamarck's absurd theory of molecules, and the transmutation of species—a speculation which supposes that the lowest animal in creation, by an exertion of its will, puts forth new organs, by the possession of which it becomes a member of the order immediately above it, and so proceeds through the scale of being, till it arrives at the most perfect form."

In the concluding lecture he alluded to the theories which had been advanced to harmonize geological conclusions with the words of Genesis. As, however, his views on this difficult question have been already stated, they need not be recapitulated in this place[1].

On this subject I have heard a striking anecdote. A meeting to promote national education was held in Norwich, Bishop Stanley in the chair. A clergyman spoke at some length of the evils he feared in the movement, and of the influence of Science in weakening belief in revelation. When he had ended Sedgwick suddenly rose, took a Bible from the

[1] See above, Vol. ii. pp. 79, 343.

table, and holding it up exclaimed in his most vehement manner: "Who is the greatest unbeliever? Is it not the man who, professing to hold that this book contains the Word of God, is afraid to look into the other volume, lest it should contradict it?"

Sedgwick's exertions in the cause of the Museum did not pass unrewarded. At the Anniversary dinner of the Committee, held 14 December 1836, a massive silver inkstand was presented to him, as a mark of gratitude "for the high services rendered to the Norfolk and Norwich Museum[1]." In this connection it may be observed that it was Sedgwick's custom for some years to invite the committee of the Museum to dinner at his house. In 1837 he held the office of President, and in that year and the next gave a course of lectures, similar in scope and purpose to the one which I have described.

These lectures were afterwards supplemented by a more enjoyable form of instruction—field-lectures on horseback, as at Cambridge. These afforded him an excuse for sharing the recreation of riding with intimate friends. A good rider Sedgwick never was—but he was enthusiastically fond of the exercise—riding daily for many years, and during his summer Residence often going out at 6 a.m. His niece writes me:

"From 1840, I or my step-cousin, Fanny Hicks, Miss Catherine Stanley (now Mrs Vaughan), Dean Pellew and his daughters, and any Cambridge friends who were staying with my uncle, used to be his companions. They were very happy days. His conversation was most instructive and amusing. He was always in good spirits when he was on horseback."

Bramerton pits, some four miles down the river Wensum, was often their destination. Here the Norwich crag is well exposed. It rests on the chalk and is "a very variable series of pebbly gravels, sands, and laminated clay-bands, which contain here and there seams or patches of shells....At Bramerton two horizons of shells have been exposed, the

[1] See above, Vol. i. p. 472.

upper layer of which contains fewer species than the lower[1]." Hither, as I have been told by one of his companions in those delightful rides, Sedgwick often led his cavalcade. Here, standing below the high escarpment on the level ground close to the river, any one who knows the place, as I do, can realize the striking picture, and see the figure we can never forget, pointing upwards to this fluvio-marine bed which comes out into the light of day below the trees and trailing plants on the summit of the rock; and see him, with dramatic action, and an enthusiasm which was part of the man, dilating on the features of the geological landscape. It was a literal compliance with the advice given by the mother of Coriolanus:—

> Go to them, with this bonnet in thy hand,
> Thy knee bussing the stones—for in such business
> Action is eloquence, and the eyes of the ignorant
> More learned than the ears.

To the last Sedgwick continued to take an interest in the geology of Norfolk. The Rev. John Gunn tells me that in the autumn of 1863 a letter came from him in which he expressed his desire "to wipe out what he had long considered a blot in his geological scutcheon"—namely, to visit the Norfolk Forest-bed with Mr Gunn as his guide. "By good fortune several stumps were exposed at low water at Happisburgh. I can never forget the delight of the veteran geologist as he exclaimed 'This is indeed a golden day!'"

And now I must say a word upon Sedgwick's more immediate duties as a Canon of Norwich. Mr Symonds, formerly precentor of the Cathedral, writes to me:

"Sedgwick entered with all his heart and mind into everything that he did. His reading of some of the Lessons in the Old Testament, especially the narrative parts, was sometimes so dramatic that one could hardly resist a smile. There was so much earnestness in his reading of the Epistles of St Paul, that he seemed to be studying them at the very moment he was reading them to the congregation. He seemed to wish to be sure that no part of their meaning escaped him. I do not think that I have ever heard anything in the singing of voices or the sound of instruments so pathetic and touching as his

[1] *The Fenland, Past and Present.* 8vo. 1878, p. 501.

reading of the first chapter of the *Lamentations* of Jeremiah. There was no fine reading, but simple pathos, deep as if he had been Jeremiah himself or one of the captives. There was the same earnestness and simple devotional feeling in his reading of the Litany, especially in the words *Have mercy upon us, miserable sinners.* But perhaps the most impressive feature was the depth of humility, trust, and supplication in his utterance of the prayer of access in the Communion Service. In such passages there were tears in his voice."

An early scientific friend of Sedgwick's in Norwich said to me of his reading: "He felt every word, and made his hearers feel also;" and another writes: "It was worth while going a long way to hear him read the *Song of Deborah.* I used to wish that he might have held a sword in his hand! At the final peroration he and his hearers were alike overcome and electrified."

It will be readily understood, that, as the springs of tears and of smiles lie very close together, though they do not rise from the same source, Sedgwick's reading, especially in his later years, verged on the grotesque. He was once heard to read the seventh chapter of Amos with great fervour and dramatic power. But, when he came to the prophet's personal history: 'I was no prophet, neither was I a prophet's son; but I was an herdman'—etc., in his effort to give due prominence to the letter *h*, he exclaimed: 'I was an *haberdasher.*' And he would occasionally throw in comments of his own in an audible voice. When reading the story of the captives placed under harrows of iron, he once added, in an undertone, "How very barbarous!" But, after all, the slips were forgotten, and the pathos was predominant. He used to say of himself that his tears were near the surface. An old friend of mine, since dead, Mrs Blakiston of Thorpe Hall, who knew Sedgwick fifty-two years ago, told me that at times it was impossible to hear him read without being moved to tears; and her sister, as she tells me herself, can bear identical testimony to the dramatic power and pathos of his delivery. The voice and manner of the reader, and the ready response of the hearers, were as vivid in the memory

of these two ladies after half a century, as though the music of his speech had only yesterday been hushed into silence.

What I have said of Sedgwick's reading is equally true of his sermons. Their style was the outcome of his character, and partook of all the peculiarities of his mental and moral organization. The progress of thought and utterance was at first hesitating, and full of repetitions. Sometimes the loose sheets on which the sermon was written would become mixed up and unmanageable, and moments, which seemed an age, would be required to marshal them into order for action. In later years the different pairs of spectacles—three pair if I remember rightly—required to be adjusted, the right pair being often, in their perversity, the last to be tried on. Then there was the bottle and glass at his elbow, containing a cunning preparation of his house-keeper's, made up of gum arabic and orange juice, for occasional assistance to his vocal power—which his friends persisted in telling him was brandy and water. All this made his first progress slow, and, to a stranger, tedious. To this day I can recall the first address I heard Sedgwick give in Cambridge, when I was an undergraduate. The meeting was in connection with the British and Foreign Bible Society. At first he hesitated, floundered, and we thought he must break down. When things seemed at their worst, he caught an idea. I think it was the powerful and wide-extending influence of Holy Scripture. Then all his difficulties of utterance vanished, and nothing could surpass the fervid and poetic eloquence of his words.

It was just the same with his sermons. They were, for the most part, written; but their most effective passages were struck off in the heat and inspiration of delivery, suggested by some sudden thought. Then words, red-hot with passion, or forcible and impetuous reasoning, were thrown out upon his audience, rousing them to enthusiasm, or hushing them into silence, if not melting them to tears. When I first came to Norwich (in 1861), his sermons on St Paul's Shipwreck were often mentioned to me. The subject had been suggested

by Mr Smith's remarkable work[1], but under his treatment it was kindled into a new life. The evidence of the accuracy of St Luke's narrative tested by soundings taken after the lapse of centuries—the peril of the ship—St Paul's calm and brave spirit sustained by a superhuman voice—the crashing of the ship's timbers—the escape of the passengers—were all dwelt on with a force and feeling which I have often heard commemorated. This might be partly due to his great interest in the life and writings of St Paul. On this I will again quote Mr Symonds:

"He was always very fond of preaching on some point relating to the life and teaching of St Paul. When he came into Residence, and had a staff of servants in his house, he used sometimes to ask them what part of Scripture they would like him to read and explain to them at family prayers. It was remarked that they had discovered his predilection, and used to ask for something about St Paul. The sermon on St Paul's shipwreck was interesting beyond description. You allude to the emotion which accompanied the delivery of the sermon. This has passed away from my recollection, but I can well imagine that it was there. The Professor was a man of the very deepest feeling. I remember his telling me how the singing of a certain passage of music had made him shed tears.

His sermons were curious. Of course, they were never commonplace. They were often long and digressive. That they were written, and carefully prepared, there could be no doubt—indeed their being written was plain from a habit he had of reading them over during the prayers, without any concealment, to the amusement of the choristers in the gallery over his head. But, when delivering them, something would strike him which he had not thought of before. Then he would go off across country for some time and distance, and afterwards seem very much astonished to find how far he had wandered. Suddenly he would pull himself up with the words: 'But this by the way!'"

[1] See Sedgwick's letter to him, quoted above, p. 298. The following extract from a letter to Miss Isabella Sedgwick, dated 2 July, 1856, is worth quotation: "...I think I told you that I meant to make a sermon out of the Voyage and Shipwreck of S. Paul. I made *two*—so they completed my work, for this season, in the pulpit of the Cathedral. I had some doubts about the first sermon on the Voyage; but it excited no small curiosity in talk, and it was heard with great attention, though it lasted 50 minutes or more. And it was pretty clear that I had not quite tired them, for last Sunday, when I concluded the subject, there was by far the largest Sunday morning congregation I ever addressed at Norwich. I really think I will get a series of illustrative drawings, and make a lecture of it to some of our public Institutions...."

Sedgwick was very particular about his family prayers, and took great pains with them. But, like all he did, they were sometimes a curious mixture of opposite characteristics. The following incident was told by a lady who was present.

SCENE. *The dining room of Sedgwick's Residence. Sedgwick seated at the breakfast-table with a bible and prayer-book before him.*

Enter Mrs BARNES *followed by the servants.*

S., turning over the leaves of the Bible. Mrs Barnes?

Mrs B. Yes, Sir.

S. Where was I yesterday?

Mrs B. You were reading the second chapter of St Luke, sir.

S. Oh! very well. *Turns the leaves over rapidly, and is about to begin, when he looks round the room.* Mrs Barnes, where's Tom?

Mrs B. He's gone out, Sir.

S. (*in a voice of thunder.*) Gone out! I won't have him go out when he ought to be at prayers. I have often told you, Mrs Barnes, that I insist upon my servants attending prayers regularly. Do you hear?

Mrs B. Yes, Sir.

S. Very well, don't let it happen again.

I have said nothing as to his opinions. That they were not weak, uncertain, or ill-defined, everyone will believe. But he was quite free from what is known as party-spirit. "Oh! that Christians would love one another," he writes, "and think of the great points of common faith on which they agree, and not quarrel about the little points on which they may differ!" No bitterness was ever felt by him towards a theological opponent. His strongest expressions of objection to ecclesiastical practices from which he differed were so touched with imagination, and brightened with humour, that the shafts from his theological quiver never angered an enemy or wounded a friend. On this subject an amusing story occurs to me. When Dean Goulburn came to Norwich he replaced the ancient lectern, a handsome eagle, in the choir, and requested the canons to read the Lessons from it, instead of from their stalls, as heretofore. Sedgwick, on coming into Residence, ignored the innovation, and read, as he always had done, from his own seat. One day a lady, one of his numerous admirers,

met him in the street. "Oh! Professor Sedgwick, why don't you read the Lessons from the new Lectern? I am so sorry you don't. I had quite looked forward to seeing you there—etc. etc." "What? Me, ma'am! Me! expose myself before that bird! Nothing shall induce me!"

He could not bear the ritual innovations that were at that time being generally introduced into churches and cathedrals. He had been reared in a parsonage among the Yorkshire mountains, where more importance was attached to personal influence than to the refinements of worship. The modes of conducting the service to which he had been in early life accustomed had wrought into his strong and impetuous nature an aversion to the most innocent changes in ritual. He was much shocked at the idea of a weekly celebration of the Holy Communion. He regarded the scarlet tassels which were attached to the caps of the choristers at the wish of the late Dean as "a vestige of the scarlet lady," and said that they had the same effect upon him as a red rag on a bull! Dr Goulburn writes:

"He was exceedingly narrow in his religious opinions. I do not think I ever came across a man so intellectually powerful, and so very highly cultivated, who was equally so. The Bishops of the Eastern counties (Peterborough, St Albans, Norwich, Lincoln, and Ely,) meet annually for conference at one another's houses. Our Bishop, when it is his turn to entertain, kindly asks the Dean and the resident canons to meet the Bishops at luncheon. On one of these occasions I happened to be calling upon Sedgwick in the morning, and I casually said, 'I suppose, Sir, you are coming to meet the Eastern Bishops at the Palace to day?' Sedgwick, I imagine, had not been apprised of the custom; for by Eastern Bishops, he evidently thought I meant, Bishops of the Eastern Church; for he burst out, 'Eastern Bishops, Sir! no! I wouldn't for the world break bread with such a pack of superstitious rascals!—quite as bad as the Catholics.'"

I have often heard him express his views on Providence, on the personality and omnipresence of God, and especially on redemption wrought by the death of Christ, with a warmth of feeling and a grandeur of expression which shewed that religion with him was the very stay and consolation of his

life. No one can read his private letters without perceiving the strength of his religious convictions; and no portraiture of him would be complete which omitted this feature of his mind. Those who have read the previous chapters will remember many such passages in the letters there printed; but I cannot refrain from adding one more. Sedgwick is writing to his niece on the death of a friend at Scalby:

"Oh! that I had St Paul's faith, and could look on death and speak of it as he did! Oh! that I had the quiet placid confiding faith which my dear old Father had for many years before he died! I only have it not because God has not given me the grace to deserve it. For Christian faith is God's gift, and is of God's grace, and no living man ever had this grace by counting up his own poor deeds, but rather by asking for it in repentant humility and in the heartfelt words of the publican—'God be merciful to me a sinner!' These are grave words, but life and death are grave things to write and think about."

He is commemorated in Norwich Cathedral by a stained glass window in S. Luke's Chapel, the gift of Dean Goulburn. A brass tablet beneath it bears the following inscription, written by the present Archbishop of Canterbury:

IN · CHRISTO ·

ADAMO · SEDGWICK ·

PHILOSOPHORVM · MAGISTRO ·

REGVM · AMICO · PARVVLORVM · DELICIIS ·

PROPTER ·

AMPLIATOS · FINES · SCIENTIAE ·

IMPERATORIVM · VERI · AFFECTVM ·

ILLVSTREM · MORVM · SIMPLICITATEM ·

IMMOTAM · IN · FIDE · CONSTANTIAM ·

CANONICO ·

DECANVS ·

MDCCCLXXIII

The translation is by Dean Burgon:

IN CHRIST.

TO

ADAM SEDGWICK,

A MASTER AMONG PHILOSOPHERS,

THE FRIEND OF PRINCES, THE DELIGHT OF LITTLE ONES,

AS ONE WHO

EXTENDED THE FRONTIERS OF SCIENCE,

AND WAS FIRED WITH A RIGHT ROYAL LOVE OF TRUTH,

WHOSE CHARACTER WAS A GRAND SIMPLICITY,

AND WHOSE ROCK WAS THE FAITH OF CHRIST,

TO HIM,

ONCE A CANON OF THE CHURCH OF NORWICH,

THIS MEMORIAL IS RAISED BY THE DEAN.

1873

LIST OF SEDGWICK'S WORKS.

1820 On the Physical Structure of those formations which are immediately associated with the Primitive Ridge of Devonshire and Cornwall. *Read* 20 *March*, 1820.

Trans. Phil. Soc. Camb., i. *pp.* 89—146.

1821 On the Physical Structure of the Lizard District in the County of Cornwall. *Read* 2 *April and* 7 *May*, 1821.

Trans. Phil. Soc. Camb., i. *pp.* 291—330.

A Syllabus of a course of lectures on Geology. 8vo. Camb., 1821.

1822 On the Geology of the Isle of Wight. A Letter to the Editor of *The Annals of Philosophy*, dated Trinity College, Cambridge, 17 March, 1822.

Annals of Philosophy, N. S., iii. *pp.* 329—355.

On the Phenomena connected with some Trap Dykes in Yorkshire and Durham. *Read* 20 *May*, 1822.

Trans. Phil. Soc. Camb., ii. *pp.* 21—44.

1823 Letter to the Members of the Senate, dated Trin. Coll., 14 May, 1823.

The Cambridge Chronicle, 23 *May*, 1823.

A reply to an Address to the Senate, published by the Master of Jesus College. 8vo. Cambridge, 1823, pp. 86.

1823–24 On the Association of Trap Rocks with the Mountain Limestone Formation in High Teesdale, &c. *Read* 12 *May*, 1823; 1 *March and* 15 *March*, 1824.

Trans. Phil. Soc. Camb., ii. *pp.* 139—195.

1824 Remarks on the observations of Dr French; with an argument on the law of elections to offices created by the Senate. Dated Trin. Coll., Feb. 25, 1824. 8vo. Cambridge, pp. 48.

1825 On the Origin of Alluvial and Diluvial Formations. A Letter to the Editor of *The Annals of Philosophy*, dated Trinity College, Cambridge, 11 March, 1825.

Annals of Philosophy, N. S., ix. 1825, *pp.* 241—257.

On Diluvial Formations. A letter dated May, 1825.

Annals of Philosophy, x. 1825, *pp.* 18—37.

The Minutes of the Phil. Soc. Camb. shew that a paper "On the essential distinction between Alluvial and Diluvial Deposits," had been read to the Society, 21 February and 7 March.

"A portion of a paper was read by Professor Sedgwick on the Geology of the Yorkshire Coast, a section of which was exhibited to the Society."

Minutes, Phil. Soc. Camb., 2 *May*, 1825.

The paper was completed 16 May (*Ibid*).

1826 On the Classification of the Strata which appear on the Yorkshire Coast. A Letter to the Editors of the *Annals of Philosophy*, dated 20 Feb., 1826, followed by a Memoir. Issued with separate title-page, as above, and "London: printed by C. Baldwin, New Bridge-Street, 1826." *Read to Phil. Soc. Camb.*, 2 *May*, 16 *May*, 1825.

Annals of Philosophy, N. S., 1826, xi. *pp.* 339—362.

"A paper was read by Prof. Sedgwick 'on the Geology of the Isle of Wight'."

Minutes, Phil. Soc. Camb., 8 *May*, 1826.

"Rev. Prof. Sedgwick exhibited to the Society a pair of large horns of some species of the genus *Bos* found near Walton in Essex."

Minutes, Phil. Soc. Camb., 13 *November*, 1826.

1826–28 On the Geological Relations and Internal Structure of the Magnesian Limestone, and the lower Portions of the New Red Sandstone Series in their Range through Nottinghamshire, Derbyshire, Yorkshire, and Durham, to the Southern extremity of Northumberland. *Read* 17 *Nov.*, 1826; 30 *April*, 18 *May*, 1827; 7 *March*, 1828.

Trans. Geol. Soc. Lond., Ser. 2, iii. *pp.* 37—124.

1827 "After the meeting Professor Sedgwick gave an account of the peculiarities of the Coal Strata in the neighbourhood of Whitehaven."

Minutes, Phil. Soc. Camb., 14 *May*, 1827.

1828 On the Geological Relations of the Secondary Strata in the Isle of Arran. By Rev. A. Sedgwick [etc.], and R. I. Murchison. *Read* 18 *January and* 1 *February*, 1828.

Trans. Geol. Soc. Lond., Ser. 2, iii. *pp.* 21—36.

"After the meeting Prof. Sedgwick gave an account of the Geological Structure of Scotland as collected from the observations made by himself and Mr Murchison during the preceding summer."

Minutes, Phil. Soc. Camb., 3 *March*, 1828.

On the Structure and Relations of the Deposits contained between the Primary Rocks and the Oolitic Series in the North of Scotland. By the Rev. A. Sedgwick [etc.], and R. I. Murchison [etc.]. *Read* 16 *May and* 6 *June*, 1828.

Trans. Geol. Soc. Lond., Ser. 2, iii. *pp.* 125—160.

1829 Letter to Right Hon. H. Goulburn. 3 June. Signed: *A Resident Member of the Senate.*

"After the meeting Professor Sedgwick gave an account of the Geological Structure of the Alps, illustrated by a section passing from the plains of Bavaria to those of Trieste."

Minutes, Phil. Soc. Camb., 30 *Nov.*, 1829.

1829–30 A Sketch of the Structure of the Eastern Alps; with sections through the Newer Formations on the Northern Flanks of the Chain, and through the Tertiary Deposits of Styria, etc., etc. By Rev. A. Sedgwick [etc.] and R. I. Murchison [etc.]. *Read* 6 *Nov.*, 20 *Nov.*, 4 *Dec.*, 1829; 5 *March*, 1830.

With Supplementary Observations, Sections, and a Map. By R. I. Murchison, [etc.] *Read* 19 *Jan. and* 2 *Feb.*, 1831.

Trans. Geol. Soc. Lond., Ser. 2, iii. *pp.* 301—420.

1830 Address delivered [as President] at the Anniversary Meeting of the Geological Society of London, 19 February, 1830. 8vo. London, pp. 28.

Proc. Geol. Soc. Lond., i. *pp.* 187—212.

A Sketch of the Structure of the Austrian Alps. By Rev. A. Sedgwick and R. I. Murchison. *Read* 21 *May*, 1830.

Proc. Geol. Soc. Lond., i. *pp.* 227—231.

1831 Introduction to the General Structure of the Cumbrian Mountains; with a Description of the great Dislocations by which they have been separated from the neighbouring Carboniferous Chains. *Read* 5 *January*, 1831. With an Appendix. *Read* 6 *November*, 1833.

Trans. Geol. Soc. Lond., Ser. 2, iv. *pp.* 47—68*.

Address on announcing the first award of the Wollaston Prize. *Delivered* 18 *February*, 1831.

Proc. Geol. Soc. Lond., 1831, i. *pp.* 270—279.

Address to the Geological Society, delivered on the evening of the 18th of February, 1831, on retiring from the President's Chair.

Proc. Geol. Soc. Lond., 1831, i. *pp.* 281—316.

Description of a Series of Longitudinal and Transverse Sections through a Portion of the Carboniferous Chain between Penigent and Kirkby Stephen. *Read* 2 *March and* 16 *March*, 1831.

Trans. Geol. Soc. Lond., Ser. 2, *Vol.* iv. *pp.* 69—102.

Address to Senate in opposition to the claims of Mr Goulburn and Mr W. Y. Peel (2 May). Signed: *A Resident Member of the Senate.*

"After the meeting Professor Sedgwick gave an account illustrated by sections, of the geological structure of Caernarvonshire."

Minutes, Phil. Soc. Camb., 14 *Nov.*, 1831. *Phil. Mag.* 1832, 69.

1832 On the New Red Sandstone Series in the Basin of the Eden, and North-western Coasts of Cumberland and Lancashire. *Read* 1 *February*, 1832.

Trans. Geol. Soc. Lond., *Ser.* 2, iv. *pp.* 383—408. *Proc. Geol. Soc. Lond.* i. *pp.* 343—345, *entitled: On the deposits overlying the carboniferous series in the valley of the Eden, and on the north-western coasts of Cumberland and Lancashire. Phil. Mag.*, xi. *pp.* 283—285.

"After the meeting Professor Sedgwick gave an account, illustrated by maps and sections, of the Physical Geography and History of the Fens of Cambridgeshire."

Minutes, Phil. Soc. Camb., 7 *May*, 1832.

On the Geological Relations of the Stratified and Unstratified Groups of Rocks composing the Cumbrian Mountains. *Read* 16 *May*, 1832.

Proc. Geol. Soc. Lond., i. 399—401.

Verbal account of the Geology of Caernarvonshire.

Report, Brit. Ass. (*Oxford*), *June* 1832, *p.* 583.

Remarks on Mineral Veins.

Ibid. p. 579.

Note on certain fossil shells overlying the London clay in the Isle of Sheppey. *Read* 21 *November*, 1832.

Proc. Geol. Soc. Lond., i. 409.

A Syllabus of a course of lectures on Geology. 2nd Edition. 8vo. Camb., 1832.

1833 "After the meeting Professor Sedgwick gave an account, illustrated by representations of sections, of the Geology of North Wales."

Minutes, Phil. Soc. Camb., 11 *March*, 1833. *Phil. Mag.*, 1833, ii. 381.

"Professor Sedgwick described the leading features in the Geology of North Wales, the lines of elevation, the relation of the trap rocks to the slate-system, the cleavage of the slate; pointed out the relations of this tract to that examined by Mr Murchison; and drew a general parallel between the slate formations of Wales and Cumberland."

Report Brit. Ass. (*Cambridge*), 1833, p. xxxiii.

Professor Sedgwick gave a general account of the Red Sandstones connected with the Coal-measures of Scotland, and the Isle of Arran.

Ibid.

A Discourse on the Studies of the University. 8vo. Camb., 1833. The preface is dated 5 November, 1833.

On a Band of Transition Limestone, and on Granite Veins, appearing in the Greywacke Slate of Westmoreland, near Shap Wells and Wastdale Head. *Read 6 November*, 1833.

Proc. Geol. Soc. Lond., ii. 1.

On Charnwood Forest, Leicestershire. *Read Phil. Soc. Camb.*, 5 *December*, 1833.

Phil. Mag., iv. 1834, *pp.* 68, 69.

1834 Remarks on Mr Beverley's Letter to H. R. H. the Duke of Gloucester. First Letter to the Editors of the *Leeds Mercury* (7 January).

The Leeds Mercury, 18 *January*, 1834.

Remarks on Mr Beverley's Letter to H. R. H. the Duke of Gloucester. Second Letter to the Editors of the *Leeds Mercury*. No date.

The Leeds Mercury, 8 *February*, 1834.

Letter to the Editor of *The Times* in support of the Cambridge Petition for the Abolition of Tests on proceeding to degrees. Dated Trin. Coll. 8 April.

Published in *The Times*, 10 April, and reprinted in *The Cambridge Chronicle*, 11 April, with a few corrections.

Letter addressed "To the Resident Members of the Senate." Dated Trin. Coll. 16 April, in defence of Professor Hewett.

Printed in *The Cambridge Chronicle*, 18 April.

Seventeen Reasons for adopting the Prayer of the Petition signed by sixty-two resident Members of the Senate.

The Times, probably about 18 April.

Letter to Editor of *Cambridge Independent Press*, dated Trin. Coll. 18 April, in reply to a letter signed *A Member of the Senate* [Dr French], printed in *The Cambridge Chronicle*, 11 April.

Remarks on Mr Beverley's Letter, etc. Third Letter to the Editors of the *Leeds Mercury*. Dated Trin. Coll. 15 May.

Remarks on Mr Beverley's Letter, etc. Fourth Letter to Editors of *Leeds Mercury*. Dated Trin. Coll. 2 June.

Letter "To the Members of the Senate," in reply to Mr Selwyn. Dated Trin. Coll. 9 June.

Printed in *The Cambridge Chronicle*, 13 June.

"Professor Sedgwick on the Geology of Cambridge."

Minutes, Phil. Soc. Camb., 24 *Nov.* 1834.

A Discourse on the Studies of the University. Second Edition. 8vo. Camb., 1834.

do. do. Third Edition. 8vo. Camb., 1834.

1835 Remarks on the Structure of large Mineral Masses, and especially on the Chemical Changes produced in the Aggregation of Stratified Rocks during different Periods after their Deposition. *Read* 11 *March*, 1835.

Trans. Geol. Soc. Lond., iii. *pp.* 461—486. *Karsten, Archiv*, x. *pp.* 581—626.

Account of a field-lecture.

The Cambridge Chronicle, 10 *April*, 1835.

On the range of the Carboniferous Limestone flanking the primary Cumbrian Mountains; and on the Coal-fields of the N. W. coast of Cumberland, etc. By A. Sedgwick and Williamson Peile, Esq. of Whitehaven. *Read* 10 *June*, 1835.

Proc. Geol. Soc. Lond., ii. *pp.* 198—200.

On the Silurian and Cambrian Systems, exhibiting the order in which the older Sedimentary Strata succeed each other in England and Wales. By Professor Sedgwick and R. I. Murchison.

Report, Brit. Ass. (*Dublin*), *Part* ii. *pp.* 59—61.

Extrait d'une lettre à M. Élie de Beaumont sur le Développement des Roches stratifiées anciennes dans le Cumberland et le Pays de Galles.

Bull. Soc. Géol. de France, vii. *pp.* 152—155.

A Discourse on the Studies of the University. Fourth Edition. 8vo. Camb., 1835.

1836 "Professor Sedgwick gave an account of the system of formations inferior to the Carboniferous Series, as illustrated by his own researches in Wales, and those of Mr Murchison in the same country."

Minutes, Camb. Phil. Soc. Camb., 18 *April*, 1836.

On the Coal-fields on the North-western coast of Cumberland. By A. Sedgwick and Williamson Peile, Esq. of Whitehaven. *Read* 8 *June*, 1836.

Proc. Geol. Soc. Lond., ii. *pp.* 419—422.

A Classification of the old Slate Rocks of the North of Devonshire, and on the true position of the Culm Deposits in the central portion of that County. By Rev. A. Sedgwick and R. I. Murchison.

Report, Brit. Ass. (*Bristol*), *Part* ii. *pp.* 95, 96.

Description of a Raised Beach in Barnstaple or Bideford Bay, on the North-West Coast of Devonshire. By A. Sedgwick and R. I. Murchison. *Read* 14 *December*, 1836.

Trans. Geol. Soc. Lond., v. *pp.* 279—286.

Four Letters to the Editors of the *Leeds Mercury* in reply to R. M. Beverley, Esq. [Not published.]

8vo. Cambridge, 1836. *pp.* 64.

1837 On the Physical Structure of Devonshire, and on the Subdivisions and Geological Relations of its older Stratified Deposits, etc. Part I. By A. Sedgwick [etc.], and R. I. Murchison [etc.]. *Read* 14 *June*, 1837.

Trans. Geol. Soc. Lond., v. *pp.* 633—687.

Notice of an Incursion of the Sea into the Collieries at Workington.

Report, Brit. Ass. (*Liverpool*), *Part* ii. *pp.* 75, 76.

"Professor Sedgwick gave an account of the Geology of Charnwood Forest, and the neighbouring coal-fields."

Minutes, Phil. Soc. Camb., 13 *Nov.* 1837.

A Syllabus of a course of Lectures on Geology. 3rd Edition.

1838 Petition to the House of Commons against a Bill to carry into effect the Fourth Report of the Commissioners of Ecclesiastical Duties and Revenues.

[Undated: but sealed at a meeting of the Dean and Chapter of Norwich held 14 May, 1838. It was then printed and circulated among members of the House of Commons.]

A Synopsis of the English Series of Stratified Rocks inferior to the Old Red Sandstone—with an attempt to determine the successive natural groups and formations. *Read* 21 *March and* 23 *May*, 1838.

Proc. Geol. Soc. Lond., ii. *pp.* 675—685.

1839 Classification of the Older Stratified Rocks of Devonshire and Cornwall. By the Rev. Professor Sedgwick [etc.] and R. I. Murchison [etc.]. Dated 25 March, 1839.

Phil. Mag. Ser. 3, *Vol.* 14, *pp.* 241—260.

Postscript to the communication of Prof. Sedgwick and Mr Murchison in the present number at p. 241. [n. d.]

Ibid. p. 317.

Supplementary Remarks on the "Devonian" System of Rocks. By the Rev. Professor Sedgwick [etc.] and R. I. Murchison [etc.]. April 19, 1839.

Phil. Mag. Ser. iii. *Vol.* 14, *pp.* 354—358.

"Professor Sedgwick on Geology of Cornwall and Devon."

Minutes, Phil. Soc. Camb. 22 *April*, 1839.

"A Communication respecting the Geology of Northern Germany East and West of the Rhine."

Minutes, Phil. Soc. Camb., 25 *Nov.* 1839.

On the Physical Structure of Devonshire etc. Part II. By A. Sedgwick [etc.] and R. I. Murchison [etc.]. *Read* 24 *April*, 1839.

Proc. Geol. Soc. Lond., iii. pp. 121—123. *Trans. Geol. Soc. Lond.*, v. *pp.* 688—703*.

1840 On the Distribution and Classification of the older or Palæozoic Deposits of the North of Germany and Belgium, and their comparison with Formations of the same age in the British Isles. *Read* 13 *May and* 27 *May*, 1840.

By A. Sedgwick [etc.] and R. I. Murchison [etc.]. Followed by a Description of the Fossil Mollusca, by Viscount D'Archiac and M. E. de Verneuil, Members of the Geological Society of France, etc. etc.

Trans. Geol. Soc. Lond., vi. pp. 221—410. Issued with separate Title-page, as above, and "London: printed by Richard and John E. Taylor, Red Lion Court, Fleet Street, 1842."

1841 Two letters to the Editor of *The Norfolk Chronicle* in answer to a correspondent signing himself Miles. 27 April and 10 May, 1841.

Supplement to a "Synopsis of the English Series of Stratified Rocks inferior to the Old Red Sandstone," with additional remarks on the Relations of the Carboniferous Series and Old Red Sandstone of the British Isles. *Read* 3 *November and* 17 *November*, 1841.

Proc. Geol. Soc. Lond., iii. *Pt.* ii. *pp.* 545—554.

"Professor Sedgwick gave an account of the comparative classification of the older strata of the British Isles."

Minutes, Phil. Soc. Camb., 15 *Nov.*, 1841.

Circular to Members of the Senate soliciting subscriptions to buy the Whitby *Plesiosaurus*. 19 November, 1841.

1842 "Professor Sedgwick gave an account of Professor Owen's memoir on the skeleton of the *Mylodon*, and on the structures and habits of certain extinct genera of Fossil Sloths."

Minutes, Phil. Soc. Camb., 20 *March*, 1842.

Three letters on the Geology of the Lake District addressed to W. Wordsworth, Esq. (23 May, 24 May, 30 May). Printed in *A Complete Guide to the Lakes*, by John Hudson, Kendal.

1843 Outline of Geological Structure of North Wales. *Read* 21 *June*, 1843.

Proc. Geol. Soc. Lond., iv. *Pt.* i. *pp.* 212—224.

"Professor Sedgwick gave an account of the structure and relations of the slate rocks of North Wales."

Minutes, Phil. Soc. Camb., 13 *Nov.*, 1843.

On the Older Palæozoic (*Protozoic*) Rocks of North Wales. *Read* 15 *November, and* 29 *November*, 1843.

[A continuation of the paper on Geological Structure of N. Wales, read 21 June, 1843.]

Quart. Journ. Geol. Soc. Lond., i. *pp.* 5—22.

1844 Notes appended to *Notice on the Occurrence of Land and Freshwater Shells with Bones of some extinct Animals in the Gravel near Cambridge.* By P. B. Brodie, F.G.S., Emmanuel College. *The notes are dated* 8 *March*, 1844.

Trans. Phil. Soc. Camb., viii. 139.

"Professor Sedgwick gave a sketch of the progress of discovery among the older stratified geological deposits of Britain."

Minutes, Phil. Soc. Camb., 11 *Nov.*, 1844.

A communication on the geology of North Wales in continuation of the Memoir read 15 November and 29 November, 1843. (29 May). No abstract of this paper is given.

Quart. Journ. Geol. Soc. Lond., i. 214.

1845 On the comparative Classification of the Fossiliferous Strata of North Wales, with the corresponding deposits of Cumberland, Westmoreland, and Lancashire. *Read* 12 *March*, 1845.

Quart. Journ. Geol. Soc. Lond., i. *pp.* 442—450.

On the Geology of the Neighbourhood of Cambridge, including the Formations between the Chalk Escarpment and the Great Bedford Level. *Read at Cambridge Meeting of Brit. Ass. June*, 1845.

Brit. Ass. Rep. (*for* 1845) *Pt.* 2, *pp.* 40—47.

"Professor Sedgwick gave an account of the fossiliferous slate rocks of the Lake Mountains."

Minutes, Phil. Soc. Camb., 24 *Nov.*, 1845.

1846 On the Classification of the Fossiliferous Slates of Cumberland, Westmoreland, and Lancashire (being a supplement to a paper read to the Society, March 12, 1845). *Read* 7 *January and* 21 *January*, 1846.

Quart. Journ. Geol. Soc. Lond., ii. *pp.* 106—131.

Supplemental letter to Wordsworth on Geology of Lake District. Cambridge, 30 May [Letter iv]. Published in Hudson's *Guide.*

On the Classification of the Fossiliferous Slates of North Wales, Cumberland, Westmoreland, and Lancashire (being a supplement to a paper read to the Society, March 12, 1845). *Read* 16 *December*, 1846.

Quart. Journ. Geol. Soc. Lond., iii. 133—164.

Geology of the Lake District, in four letters addressed to W. Wordsworth, Esq.

Printed in '*A complete Guide to the Lakes*,' edited by the publisher.

1847 "Professor Sedgwick made a communication on the geology of North and South Wales."

Minutes, Phil. Soc. Camb., 15 *March*, 1847.

1848 On the Organic Remains found in the Skiddaw Slate, with some Remarks on the Classification of the Older Rocks of Cumberland and Westmoreland, etc. *Read* 2 *February*, 1848.

Quart. Journ. Geol. Soc. Lond., iv. *pp.* 216—225.

"Professor Sedgwick gave a lecture on the structure of the southern mountain-chain of Scotland, compared with that of the neighbouring parts of Cumberland."

Minutes, Phil. Soc. Camb., 12 *Feb.*, 1849.

1850 A Discourse on the Studies of the University of Cambridge. The fifth edition, with additions, and a preliminary dissertation. 8vo. Camb. 1850. The preface is dated 30 November, 1849.

8vo. *Camb.*, 1850.

On the Geological Structure and Relations of the Frontier Chain of Scotland.

Report, Brit. Ass. (*Edinburgh*), *Part* ii. *pp.* 103—107.

"Professor Sedgwick gave a lecture on the Gulf Stream, and its effects on the climate of the British Isles."

Minutes, Phil. Soc. Camb., 25 *Nov.*, 1850.

1851 Reply to Sir Charles Lyell (President of the Geological Society) on receiving the Wollaston Medal, 21 February.

Quart. Journ. Geol. Soc. Lond., vii. xx.

A Synopsis of the Classification of the British Palæozoic Rocks. First *Fasciculus*. Advertisement dated May, 1851.

Letter to the Editor of *the Morning Chronicle* on the case of the Rev. Philip Bland (17 May).

A second letter on the same subject (28 May).

On the Slate Rocks of Devon and Cornwall. *Read* 5 *November*, 1851.

Quart. Journ. Geol. Soc. Lond., viii. *pp.* 1—19.

"Professor Sedgwick gave an account of certain phenomena observed at the junction of the carboniferous chain of Yorkshire and Westmoreland with the Cambrian and Silurian rocks."

Minutes, Phil. Soc. Camb., 24 *Nov.*, 1851.

On the Lower Palæozoic Rocks at the Base of the Carboniferous Chain between Ravenstonedale and Ribblesdale. *Read* 3 *December*, 1851.

Quart. Journ. Geol. Soc. Lond., viii. *pp.* 35—54.

1852 On the Classification and Nomenclature of the Lower Palæozoic Rocks of England and Wales. *Read* 25 *February*, 1852.

Quart. Journ. Geol. Soc. Lond., viii. *pp.* 136—168.

Reply to an article by Sir R. I. Murchison (Lit. Gazette, 20 March, p. 278).

Literary Gazette, 10 April, *p.* 338.

Second article on same subject (in reply to a second letter by Sir R. I. Murchison, Lit. Gazette, 24 April, p. 369), dated Norwich, May 8.

Literary Gazette, 15 May, *p.* 417.

A Synopsis of the Classification of the British Palæozoic Rocks. Second *Fasciculus.* Advertisement dated July 16, 1852.

On a proposed separation of the so-called Caradoc Sandstone into two distinct groups; viz. (1) May Hill Sandstone; (2) Caradoc Sandstone. *Read* 3 *November*, 1852.

Quart. Journ. Geol. Soc. Lond., ix. *pp.* 215—230.

Answers from the Rev. Adam Sedgwick, M.A. Woodwardian Professor of Geology.

Report of Her Majesty's Commissioners appointed to inquire into the State, Discipline, Studies, and Revenues of the University and Colleges of Cambridge, Fol. Lond. 1852. Evidence, pp. 115—121.

Recollections of Henry Bickersteth, afterwards Lord Langdale, while at Cambridge.

Printed in *Memoirs of the Right Honourable Henry Lord Langdale.* By Thomas Duffus Hardy. 2 vols. 8vo. Lond. 1852. i. 231—234.

1853 Supplemental letter on Geology of Lake district [Fifth of the series], addressed to Mr J. Hudson, Bookseller, Kendal. [Letter v.] Cambridge, 23 June, 1853.

On the Classification and Nomenclature of the older Palæozoic Rocks of Britain.

Report, Brit. Ass. (*Hull*), *Part* ii. *pp.* 54—61.

Geology of the Lake district of Cumberland, Westmoreland, and Lancashire, in [five] letters addressed to W. Wordsworth, Esq. 12mo. Kendal, John Hudson, 1853.

Printed in *A complete Guide to the Lakes*, edited by the publisher.

1854 A Reply to two Statements published by the Palæontographical Society, in their volume for 1853; one appearing to accuse the University of Cambridge of illiberality in the administration of its Museum; the other reflecting on the character of Professor McCoy. [A letter dated 4 March, 1854.]

Ann. and Mag. Nat. Hist., *Ser.* 2, *Vol.* xiii. *pp.* 280—292.

On the May Hill Sandstone, and the Palæozoic System of England. [Letter dated 20 August, 1854, followed by a memoir.]

The paper read to the Geol. Soc. Lond. 3 May, 1854, but not published in their *Journal*.

Phil. Mag., Ser. 4, viii. *pp.* 301—317; 359—370.

Rejoinder to Professor Milne-Edwards and Mr Bowerbank. [A letter dated 21 August, 1854.]

Ann. and Mag. Nat. Hist., Ser. 2, *Vol.* xiv. *pp.* 195—197.

On the May Hill Sandstone and Palæozoic Systems of England. [Letter dated 31 October, 1854.]

This is the paper read to the British Association at Liverpool, September, 1854. Brit. Ass. Rep. Sections, p. 95.

Phil. Mag., Ser. 4, viii. *pp.* 472—506.

1855 "On the classification and nomenclature of the Palæozoic rocks."

Minutes, Phil. Soc. Camb., 12 *Nov.* 1855.

A Lecture, delivered at The Athenæum, Bury St Edmund's, December 19th, 1854. on the natural affinities and habits of the extinct Gigantic Sloths, by Professor Sedgwick.

Bury St Edmund's: Printed for the Bazaar, by W. P. Jackson, Angel Hill. 8vo. Lond. *pp.* 38.

A Synopsis of the Classification of the British Palæozoic Rocks, by Rev. A. Sedgwick: with a systematic description of the British Palæozoic Fossils in the Geological Museum of the University of Cambridge, by Frederick McCoy, F.G.S. etc. 4to. London and Cambridge, 1855.

1856 Letter to the Members of the Senate soliciting subscriptions for the purchase of a collection of fossils formed by Rev. T. Image. (10 January.)

Letter to the Editor of *The Cambridge Chronicle* on the same subject (20 February).

1857 Remarks on a passage in the President's Address delivered at the Anniversary Meeting of the Geological Society of London, on the 15th of February, 1856. [Letter dated 9 January, 1857, followed by memoir.]

Phil. Mag., Ser. 4, *Vol.* xiii. *pp.* 176—182.

Description of a series of dislocations which have moved the Cambrian and Silurian Rocks between Leven Sands and Duddon Sands. *Read to Phil. Soc. Camb.* 9 *Nov.* 1857.

Phil. Mag., Ser. 4., *Vol.* xvi. *pp.* 155—158. *Proc. Phil. Soc. Camb.*, i. *pp.* 187—190.

1858 Farewell Letter to Dr Livingstone (10 February).

Printed in *The Personal Life of David Livingstone*. By W. G. Blaikie, D.D. 8vo. Lond. 1880, *p.* 238.

On Faults in Cumberland and Lancashire.

Report, Brit. Ass. (*Aberdeen*) *Part* ii., *p.* 265. *Title only.*

1860 Article on *The origin of Species*, originally written in the form of a letter to the Archbishop of Dublin. Not signed.

The Spectator, 24 March, p. 285; revised, with some additions, 7 April, *p.* 344.

On the Succession of Organic forms during long geological periods; and on certain Theories which profess to account for the origin of new species. *Read* 7 *May.*

Proc. Phil. Soc. Camb. i. 223.

A synopsis, supplied "by the courtesy of the Professor" is printed in *The Cambridge Chronicle*, 19 May.

A Lecture on the Strata near Cambridge and the Fens of the Bedford Level, delivered to the members and friends of the Working Men's College, and of the Young Men's Christian Association, at the Town Hall, Cambridge, 1 June, 1860. *Not published.* With map and supplement.

The preface is dated 1 December, 1861. The lecture was really delivered 25 May, 1860, not 1 June.

On the Geology of the Neighbourhood of Cambridge and the Fossils of the Upper Greensand.

Report, Brit. Ass. (*Oxford*), *Part* ii. *p.* 101. (*Title only*).

1863 Letter to the Editor of *The Cambridge Chronicle* describing the career and death of Mr Lucas Barrett. Dated Norwich, 19 January, 1863.

1865 A Sketch of the Geology of the Valley of Dent, with some account of a destructive Avalanche which fell in the year 1752. *Read* 13 *November*, 1865.

Proc. Phil. Soc. Camb., i. *pp.* 236—238.

1867 Report on the Woodwardian Museum.

First Annual Report of Museums and Lecture Rooms Syndicate, 1 April, 1867.

Impressions of the character of Prince Albert: in a Letter to General Grey. See *Preface* to *The Early Years of His Royal Highness the Prince Consort.* 8vo. Lond., 1867.

1868 Report on the Woodwardian Museum.

Second Annual Report of Museums and Lecture Rooms Syndicate, 24 February, 1868.

A Memorial by the Trustees of Cowgill Chapel, with a preface and appendix, on the climate, history, and dialects of Dent. 8vo. Cambridge, 1868. [*Printed for private circulation.*]

Letter of condolence on the death of Rev. H. V. Elliott. Printed in *Life of Rev. H. V. Elliott.* By Jos. Bateman, M.A. 8vo. Lond., 1868, p. 374.

1869 Report on the Woodwardian Museum (9 March).
Third Annual Report of Museums and Lecture Rooms Syndicate, dated 16 *March.*

Prefatory Notice (dated 20 August), to *Index to the Fossil Remains of Aves, Ornithosauria, and Reptilia...in the Woodwardian Museum.* By Harry Govier Seeley. 8vo. Camb., 1870.

1870 Supplement to the Memorial of the Trustees of Cowgill Chapel, with an Appendix, etc., printed in 1868. Printed for private circulation only. 8vo. Cambridge, 1870.

Report on the Woodwardian Museum (29 March).
Fourth Annual Report of the Museums and Lecture Rooms Syndicate, dated 21 *May.*

Report on the Woodwardian Museum (11 March).
Fifth Annual Report of the Museums and Lecture Rooms Syndicate, dated 31 *March.*

1871 Printed circular soliciting subscriptions for the purchase of the Leckenby Collection (23 November).

1872 Report on the Woodwardian Museum.
Sixth Annual Report of the Museums and Lecture Rooms Syndicate, dated 21 *March.*

1873 A Catalogue of the collection of Cambrian and Silurian Fossils contained in the Geological Museum of the University of Cambridge, by J. W. Salter, F.G.S. With a preface by the Rev. Adam Sedgwick; and a table of genera and index added by Professor Morris. Cambridge, 4to. 1873.
Sedgwick's preface is dated 17 September, 1872.

LIST OF SEDGWICK'S PORTRAITS.

Date.	Description.	Artist.	In the possession of
1832	Oil-Painting .	Thomas Phillips . .	Joh. Hen. Gurney, Keswick, Norwich.
1845	Chalk Drawing	Samuel Lawrence .	Mrs Richard Sedgwick.
1846	Bust	H. Weekes . . .	Geological Society, London.
1851	Oil-Painting .	William Boxall . .	Trinity College: Small Combination Room.
1860	Bust	Thomas Woolner .	Trinity College: Library.
1867	Chalk Drawing	C. Lowes Dickenson	Woodwardian Museum, Cambridge.
1870	Oil-Painting .	R. Farren	Professor Humphry, Cambridge.

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